LYALIKOV, K.S.

USSR/Optics - General Problems. K-1

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7574

Author : Lyalikov, K.S.
Inst :
Title : Conference on Spectroscopy of Disperse Systems

Orig Pub : Zh. nauch. i prikl. fotogr. i kinemat oys., 1956, 1, No 4, 312-313

Abstract : Report on the first conference on the spectroscopy of disperse systems, organized by the Commission on Spectroscopy of the Academy of Sciences, USSR, and held in Moscow on 29 -- 30 March, 1956.

Card 1/1 - 2 -

LYALIKOV, K.S.; SHARIKOV, Yu.D.

Study of the diffraction method for analyzing aerial photograps of turbulent ocean surface. Trudy Lab.aeromet. 5:72-82 '56. (MLRA 10:1)
(Ocean) (Photography, Aerial)

LYALIKOV, K.S.

The use of electronics and cybernetics in serial photography. Zhur.nauch.i prikl.fot.i kin. 2 no.4:309-314 Jl-Ag '57. (MIRA 10:7)

(Photography, Aerial) (Electronics)

LYALIKOV, K.S.

Theory of the physical ripening of photographic emulsions. Usp. nauch. fot. vol. 5:39--54 '57. (MLRA 10:6)
(Photographic emulsions)

LYALIKOV, K.S. professor; SHARIKOV, Yu.D

Using diffraction method in analyzing aerial photographs. Priroda 46 no.2:79-81 F '57. (MLRA 10:3)

1. Laboratoiya aerometodov Akademii nauk SSSR, Leningrad.
(Diffraction) (Photographic interpretation)

LYALIKOV, K.S., professor; SHARIKOV, Yu.D.

Deciphering aerial photography of the sea swell. Priroda 46 no.4:79-80 Ap '57. (MLRA 10:5)

1. Laboratoriya aerometodov Akademii nauk SSSR (Leningrad). (Photographic interpretation) (Photography, Aerial) (Waves)

LYALIKOV, K.S.

AUTHOR: Feklistov, Ye. M., Engineer SOV/154-58-2-18/22

TITLE: Scientific and Technical Conference of the MIIGA i K (Nauchno-tekhnicheskaya konferentsiya MIIGA i K) III

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 115-116 (USSR)

ABSTRACT: In the section for aerophoto-geodetical and photogrammetrical instruments the following persons gave lectures: Professor M. M. Rusinov on "New Tendencies in the Production of Objectives in Instruments Used for Cartographical Aerial Photography." Professor A. N. Lobanov: "On Three-Dimensional Phototriangulation and the Use of Electronic Computers." Professor A. P. Mashkovich: "On Some Theoretical Statements With Regard to Questions of Photogrammetry in Connection With the Production of Precision Instruments for These Purposes." Engineer M. V. Mazov: "The Radio-Synchroniser for Simultaneous Photos From Two Airplanes." Professor K. S. Lyalikov: "Apparatus and Laboratories for Aerial Methods of the AS USSR for the Study of Spectral Intensity." Docent N. P. Zakamnov: "Making the Transformation of Aerial Photographs Automatic." Engineer L. P. Churayev: "Automatic Control of the AFA Exposure." Engineer I. G. Indichenko: "Stereophotogrammetrical Coupled Cameras." In a joint session of the sections for geodetical and photogramme-trical instruments Engineer L. Ye Mindlin read a paper on "The Method of Heterodyne Phases in Geophysical Photos." Docent B. N. Rodionov reported on "The Problem of Making Aerial Photography Automatic."
Altogether, there were 32 lectures and reports given. 52 delegates participated in the discussions.

Card 1/2

LYALIKOV, K. S.

"Investigations of the Recrystallization Process of Polydisperse Systems Stabilized Against Aggregation."

report presented at the Section on Colloid Chemistry, VIII Mendeleyev Conference of General and Applied Chemistry, Moscow, 16-23 March 1959.
(Koll. Zhur. v. 21m No. 4, pp. 509-511)

3(4), 24(7) SOV/154-59-2-13/22

AUTHOR: Lyalikov, K. S., Doctor of Chemical Sciences

TITLE: Device for the Investigation of the Spectral Luminosity Used at the Laboratory for Aerial Methods at the AS USSR (Apparatura laboratorii aerometodov AN SSSR dlya issledovaniy spektral'noy yarkosti)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 2, pp 87-91 (USSR)

ABSTRACT: All pre-war work concerned with the spectral characteristics of objects of aerial photographs shows a number of deficiencies. The investigation of the spectral luminosity carried out at the Laboratory for Aerial Methods was first done on the ground, as before the war. For this purpose the author and M. V. Savost'yanova (Ref 2) worked out a field measuring method with the help of a universal photometer with interference light-filters. Since this, however, does not allow measurements in the invisible part of the spectrum nor those from an airplane, aerial spectrographs and terrestrial photoelectric spectrometers were later developed. The forestry group of the laboratory, S. V. Belov and collaborators, showed that the spectral

Card 1/4

Device for the Investigation of the Spectral Luminosity Used at the Laboratory for Aerial Methods at the AS USSR

luminosity of the individual tree-top is identical to that of a considerable section of forest, provided the measurements take place at identical exposures. The following demands are made on the device for aerial photography: 1) The device must supply a spectral luminosity curve of not too large a section of the object of aerial photography. 2) Together with the taking of the spectrum, the section of the object (on which the surface, from which the reflected light is taken, must be exactly indicated) must be synchronously photographed. 3) The device must allow the taking of a picture from at least not very high an altitude. 4) The range of wave lengths, in which the measurements can be carried out, should be between 400 and 1000 mμ. Instruments for terrestrial surveys must comply with the last-mentioned requirement. Apart from this they must be easily transportable and reliable. The aero-spectrograph which has been developed in the Laboratory by M. A. Romanova and Yu. P. Shchepkin, complies with these requirements in the best way. The device operates, however, within the relatively close range of wave lengths of 500 to 650 mμ. The difficulties

Device for the Investigation of the Spectral Luminosity Used at the Laboratory for Aerial Methods at the AS USSR

arising when working with a prismatic spectrograph were eliminated by the use of a diffraction grid. The first model of the photoelectric spectrophotometers was built by V. V. Kol'tsov and the second by A. P. Kharchenko. The second is being tested at present. It makes it possible to measure the reflection coefficient within the range of wave lengths of 450 - 800 mμ.- The first model of a spectrovisor (spektrovizor) was designed in 1956 by V. V. Kol'tsov, the second in 1957. Both proved to be a failure. At present a third model is being tested. The optical part of it was worked out by I. V. Semenchenko and the electrical part by E. A. Sorri and K. Ye. Meleshko. A diffraction grid is used here as a dispersion system. The movement of the oscilloscope beam along both axes is controlled by the same mirror, which secures a complete synchronization. The work by A. B. Vistelius and M. A. Romanova showed that the investigations here mentioned can be considered to be a new method for the solution of geological problems.- In conclusion the following can be said: For the solution of aereophotographic problems it is necessary to have two types of instruments for the measurement

Device for the Investigation of the Spectral Luminosity Used at the Laboratory for Aerial Methods at the AS USSR

of the spectral luminosity on the ground and from the airplane. Photoelectrical instruments are to be preferred for terrestrial measurements. For aerial surveys light type spectrographs and spectrovisors (spektrovizir) can be used. For terrestrial and aerial measurements the dimensions of the surfaces, whose spectral luminosity is measured should be made, to correspond to the picture details. When measuring the spectral luminosity from the air, the synchronous photographing of the object must be secured. The point whose spectral luminosity has been measured, must be on the aerial photograph. The use of diffraction grids as dispersion systems is preferable in all cases. There are 2 Soviet references.

ASSOCIATION: Laboratoriya aerometodov AN SSSR (Laboratory for Aerial Methods at the AS USSR)

LYALIKOV, K.S.

Ways of improving aerial photography. Trudy Lab.aerometod. 7: 19-24 '59. (MIRA 13:1)

1. Laboratoriya aerometodov AN SSSR.
(Photography, Aerial)

AUTHOR: Lyalikov, K.S. SOV/77-4-1-13/22

TITLE: A Survey of Foreign Works on Electrophotography (Obzor zarubezhnykh rabot po elektrofotografii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 1, pp 68-74 (USSR)

ABSTRACT: The article describes recent American achievements in the field of electrophotography, especially the IBM 939. There are 3 photographs, 5 diagrams, 2 graphs, 1 table and 9 American references.

Card 1/1

SOV/77-4-2-15/18

23(4). 23 (5)

AUTHOR: Lyalikov, K.S.

TITLE: Successes of Soviet Electrophotography (Uspekhi sovetskoy elektrofotografii) A Scientific and Technical Conference on Questions of Electrography (Nauchno-tekhnicheskaya konferentsiya po voprosam elektrografii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 2, pp 149-152 (USSR)

ABSTRACT: This is an account of a scientific and technical conference on electrography, the first to be held in the Soviet Union and evidently in the world. It was organized in Vil'nyus on December 16-19, 1958 by the Soviet narodnogo khozyaystva Litovskoy SSR (Council for National Economy of the Lithuanian SSR), the Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta ministrov Litovskoy SSR (State Scientific and Technical Committee of the Council of Ministers of the Lithuanian SSR) and

Card 1/10

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

the Nauchno-issledovatel'skiy institut elektrografii (Scientific Research Institute of Electrography). The conference, attended by over 300 scientific workers, was opened by the Deputy Chairman of the Council for National Economy of the Lithuanian SSR P.A. Kul'vets, after which the director of the Institute for Electrography, I.I.Zhilevich, reviewed the state and prospects for development of electrography in the USSR. He stated that research in this field should be carried out along the following lines: a) a search for new photo-active materials with high dark resistance; b) physical research into the internal photoeffect; c) development of photosemiconductor layers; d) development of the theory of the electrophotographic process. K.S. Lyalikov (speaking also for O.G. Popova) gave a report in which he suggested determining the

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

light sensitivity of electrophotographic layers in GOST units. N.Z. Plavina (speaking also for I.I.Zhilevich, L.I.Nyun'ko, N.N.Markevich, B.I. Kalinauskens and O.M. Suveyzdis) reported on some research on the sensitization of a semiconductor in electrophotographic layers. V.M. Fridkin gave a report on highly sensitive electrophotographic layers and an electrophotocopying device, and reviewed the formation process of the latent electrophotographic image on the basis of the zonal theory. He also described the design of an electrosensitometer for determining sensitivity by the relaxation period of a charge on the surface of the layer, and the circuit of an electrophotographic copying device. Anfilov finished describing the latter and then spoke on the mechanics and kinetics of the development of the latent electrophotographic image in liquid developers.

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

K.M. Vinogradov described some of the features of the cascade and liquid methods of electrophotographic development. Yu.Ye. Karpeshko devoted his report to the criterion of light sensitivity of the elctrophotographic process. After the reports, a discussion took place on methods of determining the light sensitivity of electrophotographic layers. A.N. Chernyshev spoke on the prospects of developing polygraphic processes using electric and magnetic forces. O.V. Gromov (speaking also for I.I. Zhilevich, A.A. Sukhiy, V.A. Gordeyeva, A.S. Pauzha and Yu. I. Kevalaytis) reported on the development of elctrophotographic reproducing equipment. A.S. Pauzha (speaking also for I.I. Zhilevich, A.S. Borisovich, N.M. Gal'vidiks and M.I.Rautkauskas) reported on the use of electrographic methods in recording oscillographs and other recording instruments.

Card 4/ 10

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

V.P. Yurchenko (speaking also for L.N.Balin) spoke on the possibility of electrophotographically recording images from electron-beam tubes. L.S. Korol' (speaking also for N.N. Markevich, T.I. Kozlovskaya, B.I. Kalinauskene, M.K. Naynens, I.I. Zhilevichyute and E.A. Montrimas) gave a detailed description of laboratory and machine methods of producing photosemiconductor papers (zinc oxide was used). A.A. Sukhiy (speaking also for I.I. Zhilevich, O.V. Gromov, V.A. Gordeyev, N.V. Fedotov and T.N. Ger) described a laboratory and industrial machine for producing photosemiconductor papers. T.A. Shishkina (speaking also for Ya.A. Oksman) reported on a method of examining electrophotographic materials using an a/c bridge. S.I. Khotyanovich (speaking also for A.I. Gikens and I.S. Shileykens) spoke on developing materials for electrophotography

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

and ferromagnitography, including developers giving a "reverse" image. B.I. Tikhonov reviewed methods of measuring the electrostatic potentials of electrophotographic layers, stressing that the oscillating electrode should not be placed above a layer with varying potential as this causes self-discharge. E.V. Krukovskis (speaking also for R.G.Gorevoy, A.V.Osipov and Ye. S. Kheyfets) spoke on the practice of producing velveteen papers in an electrostatic field, and showed samples produced by the Grigishskaya paper factory. Ye.L. Nemirovskiy then gave a historical review of the development of electrographic methods in which he paid tribute to the work of the Scientific Research Institute of Electrography in Vil'nyus and the Institut poligraficheskogo mashinostroyeniya (Moskva)-(Polygraphic Machine-Building Institute (Moscow)). Debates were then held

Successes of Soviet Electrophotography: A Scientific and Technical Conference on Questions of Electrography

on methods of measuring the potential of charged electrophotographic layers; the vibration pick-up most-used was shown in B.I. Tikhonov's report to be not always accurate. S.G.Grenishin stated that the bad influence of the oscillating electrode can be eliminated if the electrode probe above its surface is fixed and the pick-up is connected to it by a shielded cable. In the debate on Ye.L. Nemirovskiy's report it was stated that the research of Academicians A.N. Terenin and Ye.K. Putseyko should be considered as the basis of all work on electrophotographic papers with ZnO, as they were the first to show the possibility of optical sensitization of the internal photoeffect in ZnO. N.M.Gol'vidis then gave a report on the depositing of charges by a corona discharge. A.I. Kaminskas and A.P. Yanulis reviewed some of the results of the use of

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

electrographic methods in radiography. L.I. Nyun'ko (speaking also for I.I. Zhilevich, I.Z. Plavin, Yu.K. Vishchakas and Yu.A.Zibuts) reported on relaxation processes in semiconductor layers, using a vibration electrometer. Yu.K.Vishakas gave a report on research on some physical properties of the polycrystalline layers of selenious cadmium. M.P. Mikalkyavichyus spoke on some of the photoelectric properties of Sb_2S_3 and Sb_2Se_3: the absorption maximum of the latter is about 900 m μ. S.M. Neyman reported on methods of obtaining selenium light-sensitive layers, including sublimation and thermal treatment; it was also found that the sensitivity of the layers increased after storage for 1.5 to 2 months at room temperature. P.M. Podvigalkin (speaking also for S.G.Grenishin) spoke on research into the electrical properties of electrophotographic layers of

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

amorphous selenium and powdered zinc oxide. N.K. Shiktorov (speaking also for A.S. Tauraytis) discussed the production of selenium layers and some of their properties. Finally the following reports on ferromagnetography were delivered; 1) B.Ya. Kaznacheyev, V.M.Zhogina, "Electrodeposition of Magneto-hard Alloys with Given Magnetic Characteristics" 2) M.T.Arutyunov, "Visualization of Magnetic Oscillograms by the Ferrographic Method" 3) V.T.Patrunov, "Ferrographic Recording of Facsimile Images" 4) I.I.Zhilevich, I.I. Gikis, B. Ye. Buchek, I.I. Naynise, A.K.Kizhis, "Mock Experiments in Non-Pressure Ferromagnetic Printing". There was also an exhibition showing the work of the Electrographic Institute. The most important conclusion of the conference was that a solid approach had been made to the possibility of wide technical use of the methods

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrography

of electrography. It was considered that although work in this field actually started only in 1955-56 it has covered as much ground as the USA in 10 years. While admitting that it was easier to reproduce results already achieved than to be the first to arrive at them, the conference observed that the Americans took good care that no important information appeared in the literature available.

Card 10/10

7 (3), 24 (7)

AUTHORS: Lyalikov, K. S., Belonogova, I. N., Meleshko, K. Ye., Semenchenko, I. V., Kharchenko, A. P.

SOV/48-23-10-29/39

TITLE: A New Apparatus and a Method of Investigating the Spectra of Earth-surface Reflection

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 10, p 1247 (USSR)

ABSTRACT: At the Laboratoriya aerometodov AN SSSR (Laboratory for Aero-methods of the AS USSR) a new apparatus and a method were developed, which make it possible to investigate the spectral brightness of objects in aerial photographs. Two types of photoelectrical devices were developed. A. P. Kharchenko developed a photoelectrical spectrophotometer which operates within the range of from 400 to 1000 mμ. It is used for investigations carried out from the ground. For the purpose of investigating the spectral brightness of objects from an airplane, Meleshko and Semenchenko developed a fast single-beam photoelectric spectrometer, in the case of which recording takes place in an electron beam tube (a so-called "spectrovisor"). This device operates within the range of 450-900 mμ. Both devices were tested in 1958 with good success.

Card 1/2

A New Apparatus and a Method of Investigating the Spectra of Earth-surface Reflection

SOV/48-23-10-29/39

A method for the rapid construction of the curves of spectral brightness was worked out by means of which the spectral characteristic of a number of objects has already been obtained from aerial pictures taken in the South of the European part of the USSR.

Card 2/2

MARKHILEVICH, K.I.; SHEBERSTOV, V.I.; KIRILLOV, N.I., prof., doktor tekhn.nauk; MASLENKOVA, N.G.; KOLOSOV, K.A.; MIKHAYLOV, V.Ya.; MATIYASEVICH, L.M.; FRIDMAN, I.M.; SPASOKUKOTSKIY, N.S.; KHAZAN, S.M.; DEYCHMEYSTER, M.V.; BLYUMBERG, I.B., dotsent, retsenzent; LYALIKOV, K.S., prof., doktor khim.nauk, retsenzent; TELESHEV, A.N., red.; MALEK, Z.N., tekhn.red.

[Present-day developments in photographic processes; processing of light sensitive materials and new processes for obtaining the photographic image] Sovremennoe razvitie fotograficheskikh protsessov; obrabotka svetochuvstvitel'nykh materialov i novye protsessy polucheniia fotograficheskogo izobrazheniia. Pod red. N.I.Kirillova. Moskva, Gos.izd-vo "Iskusstvo," 1960. 341 p. (MIRA 14:4)

1. Leningradskiy institut kinoinzhenerov (for Blyumberg).
(Photographic chemistry)

Lyalikov, K.S.

PHASE I BOOK EXPLOITATION SOV/4315
SOV/7-3-9

Akademiya nauk SSSR. Laboratoriya aerometodov

Trudy, tom 9 (Transactions of the Laboratory of Aerial Methods, USSR Academy of Sciences, vol. 9) Moscow, AN SSSR, 1960. 357 p. Errata slip inserted. 1,700 copies printed.

Resp. Ed.: V.V. Sharkov, Candidate of Geography; Ed. of Publishing House: D.M. Kudritskiy; Tech. Ed.: M.Ye. Zendel'.

PURPOSE: This volume is intended for geographers, geologists, geodesists, and photogrammetrists.

COVERAGE: This collection of 23 articles contains studies of the earth's surface, structure, and geological formations by means of aerial photography. The authors discuss the principles, methods and techniques used in aerial surveying to determine such factors as the petrographic composition of the soil through the measurement of the spectral brightness of surfaces, the geological structure of underwater areas through recorded photographic images, the geological composition and geomorphological structure of underlying layers through the analysis of surface plant coverings, the trends and characteristics of recent tectonic movements through the study of surface features traced photographically

Brief Communications

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LYALIKOV, K.S.

"Technology of processing cinematographic materials" by I.B.Bliumberg. Reviewed by K.S.Lialikov. Zhur.nauch.i prikl. fot.i kin. 5 no.1:78-79 Ja-F '60. (MIRA 13:5)
(Motion-picture photography--Films)
(Bliumberg, I.B.)

LYALIKOV, K.S.; SEMENCHENKO, I.V.

Polarizing absorption spectra of some cyanine sensitizing dyes. Zhur.nauch.i prikl.fot.i kin. 5 no.3:161-167 My-Je '60. (MIRA 13:7)

1. Laboratoriya aerometodov AN SSSR.
(Photographic sensitometry) (Cyanines)

VLCHEK, B. [Vlcek, B.]; VLCHKOVA, S. [Vlckova, S.]; LYALIKOV, K.S., red.perevoda

Measuring the diffusion of sensitizing dyes in gelatine [translated from the Czech]. Zhur.nauch.i prikl.fot.i kin. 5 no.3:187-194 My-Je '60. (MIRA 13:7)

1. Nauchno-issledovatel'skiy institut narodnogo predpriyatiya Fotokhema, g.Praga (Chekhoslovakiya).
(Photochemistry)
(Photographic sensitometry)

S/077/60/005/003/008/009
E032/E514

AUTHOR: Lyalikov, K.S.

TITLE: Photographic Science and Technology in Czechoslovakia

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1960, Vol.5, No.3, pp.230-233

TEXT: The principal Czechoslovak institutions working in this field are the following: the Czechoslovak Academy of Sciences, the Charles University, Research Institute for Photographic Chemistry and the Sound and Image Research Institute. In addition, important work is being carried out in small research groups investigating the properties of gelatine at the Institute of the Tanning Industry and at the Laboratory of the Gelatine Department of the Chemical Industry. Among the activities of the Academy of Sciences in this field are the following:
1) Optics Laboratory of the Czechoslovak Academy of Sciences; studies of aspherical surfaces, optical constants, development of an electronic instrument for studying the energy distribution in the circle of diffusion, the quality of the photographic image (Doctor Věra Blumova), infrared studies (Engineer Antonin Vaško).

Card 1/5

S/077/60/005/003/008/009
E032/E514

Photographic Science and Technology in Czechoslovakia

The latter group is concerned with electron optical converters with microscopy, spectroscopy in the near infrared and the control of photographic materials. It is also concerned with the properties of dyes and other materials in the infrared region and the study of anti-reflecting layers for the infrared region. Another line of research by this group is concerned with the properties of selenium, germanium, silicon and other materials.

2) Institute of Nuclear Physics of the Czechoslovak Academy of Sciences: nuclear emulsion work (Docent Josef Kubal). This group is concerned with the development of nuclear emulsions suitable for the recording of α and other particles at low and intermediate energies. It is at present working at the Physics Institute of the Charles University in Prague.

3) Institute of Theoretical Physics at the Czechoslovak Academy of Sciences; this institute is not directly concerned with photography but the late Zdeněk Matyaš worked at this institute. Matyaš was concerned with the theory of development of silver bromide and received the State Prize for this work. Dr. Miroslav Trlifaj is concerned with problems which are allied to the theory of

Photographic Science and Technology in Czechoslovakia

the latent photographic image.
4) Physics Institute of the Charles University: this institute is concerned with the study of the latent image (Professor Ladislav Zachoval). Zdeněk Berger, Karel Vacek, Olga Nováková and others are concerned with the effect of pressure on the absorption of silver bromide, chloride and iodide. Another line of research is the study of semiconductors and the sub-structure of zinc (Professor Miroslav Valouch).
5) The Sound and Image Research Institute: this institute is one of the major Czechoslovak institutes and carries out research and development work in scientific photography and cinematography. Professor Jaroslav Boušek is carrying out work on the sensitometry of photographic materials. Jaroslav Jahoda is working on colorimetry. The institute publishes the journal "ZOR" (Sound, Image and Reproduction) which publishes papers on sensitometry, television and sound technology.
6) Film Department of the Academy of Arts: this department is the only one in Czechoslovakia which is concerned with the training of

Card 3/5

Photographic Science and Technology in Czechoslovakia

film technicians. Professor Boucek is carrying out work on sensitometry in this department.

7) Laboratories of the Photographic Industry and the Research Institute of Photographic Chemistry: all the photo-chemical establishments in Czechoslovakia are at present combined in a national organization known as "Fotochema" or "Foma". This organization produces a wide range of photographic materials (black and white and colour). This reduces the amount of photographic material which has to be imported from the USSR and East Germany. The Research Institute for Photographic Chemistry, which is a part of this organization, is concerned with the development of new types of emulsions. It is also concerned with polarography.

8) Laboratory of the Gelatine Department of the Chemical Industry: Engineer Václav Křikava is carrying out a research and development programme in this department which is largely concerned with the sensitivity of photographic materials as a function of their chemical composition.

9) Gelatine Group of the Research Institute of the Tanning Industry: this group is being directed by Doctor Cyril Halámek. This group

S/077/60/005/003/008/009
E032/E514

Photographic Science and Technology in Czechoslovakia

is concerned with the manufacture of photographic gelatine and also consumable gelatine and glue. Professor Jan Schlemmer of the Advance School of the Chemical Industry is studying indirect methods of photography in infrared light and the Russell effect. Professor Jan Lauschmann (Lauśmann) is studying methods of analysis in the photographic industry. He has recently published a monograph on this subject.
The present paper is a result of the present author's tour of Czechoslovakia during which the Czechoslovak Academy of Sciences provided him with the opportunity of visiting all the institutions concerned with photography.

Card 5/5

LYALIKOV, K.S.; PETRUSHKINA, Z.L.; NOMOKONOVA, V.F.; RASTORGUYEV, N.G.

Dark discoloration of infrared sensitizers. Zhur. nauch. i prikl. fot. i kin. 6 no. 3:178-185 My '61. (MIRA 14:5)

1. Laboratoriya aerometodov AN SSSR.
(Photography--Films)

VASIL'YEV, V.V.; LYALIKOV, K.S.; PERFILOV, N.A.

Sensitivity of extra-fine grained P-9 emulsions to the visible spectrum and their optical sensitization. Zhur. nauch. i prikl. fot. i kin. 6 no. 3:227-229 My '61. (MIRA 14:5)

1. Leningradskiy institut kinoinzhenerov.
(Photographic emulsions)

LYALIKOV, K.S.; PETRUSHKINA, Z.L.; NOMOKONOVA, V.F.

Comparing the resolving power and the sharpness of two films for aerial photography. Zhur.nauch.i prikl. fot.i kin. 6 no.6: 418-420 N-D '61. (MIRA 15:1)

1. Laboratoriya aerometodov AN SSSR.
(Photography, Aerial--Equipment and supplies)

LYALIKOV, K.S.

Conference on the problems in the interpretation of aerial photography. Zhur.nauch.i prikl.fot. i kin. 7 no.3:244 My-Je '62. (MIRA 15:6)

(Photography, Aerial)

LYALIKOV, K.S.

Conference on the spectroscopy of light-scattering media. Zhur. nauch.i prikl.fot.i kin. 7 no.4:320-321 Jl-Ag '62. (MIRA 15:8)
(Spectroscopy--Congresses) (Light-scattering)

LYALIKOV, K.S.; VORONKOVA, N.M.

Effect of the concentration of the initial solution on the size of the AgBr grains. Zhur.nauch.i prikl.fot.i kin. 7 no.5:333-340 S-O '62. (MIRA 15:11)

1. Laboratoriya aerometodov AN SSSR.
(Photographic emulsions—Testing) (Silver bromide)

LYALIKOV, K.S.; GINZBURG, K.M.

Role of iodide in the process of physical ripening of emulsions. Part 1: Silver iodobromide emulsions without addition of ammonia. Zhur nauch.i prikl.fot.i kin. 8 no.1:29-36 Ja-Feb '63. (MIRA 16:2)

1. Laboratoriya aerometodov AN SSSR.
(Photographic emulsions) (Iodide)

LYALIKOV, K.S.; GINZBURG, K.M.; ANTIPIN, A.V.

Role of potassium iodide in the process of the formation of photographic emulsions. Part 1. Silver iodobromide ammonia-free emulsions. Zhur. nauch. i prikl. fot. i kin. 8 no.2:101-105 Mr-Ap '63. (MIRA 16:3)

1. Laboratoriya aerometodov AN SSSR i Leningradskiy institut kinoinzhenerov.
(Photographic emulsions) (Potassium iodide)

S/0077/64/009/002/0151/0155

ACCESSION NR: AP4026821

AUTHOR: Lyalikov, K. S.

TITLE: Second conference on the chemistry of photographic emulsions

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 9, no. 2, 1964, 151-155

TOPIC TAGS: chemistry, photography, photographic emulsion, emulsion

ABSTRACT: The 15th conference on scientific photography took place in Kazan on September 25-28, 1963. It was devoted to basic problems of theory and technology relating to the preparation of photographic emulsions. The number of participants was 229, and 27 papers were presented. V. I. Sheberstov delivered the introductory address, "A survey of factors determining the light sensitivity of photographic emulsions." K. V. Chibisov, Zh. L. Broun, and B. G. Varshaver reported on "The functions and evolution of centers of admixtures in emulsion monocrystals." They also presented the paper of Zh. L. Broun and L. P. Mel'nichuk on "The effect of chemical sensitization on the spectral sensitivity to admixtures." V. M. Shvartz and Z. V. Ivanova reported on "The effect of various emulsion factors on the

Card 1/5

ACCESSION NR: AP4026821

sensitivity of photographic layers at long exposures." The second session was devoted to the physical chemistry of photographic emulsions. K. S. Lyalikova and K. M. Ginsburg presented a paper on "The effect of iodide on the formation and physical maturation of silver iodide-bromide emulsions." I. R. Protas, Yu. A. Krakau, and P. T. Sidorenkova reported on "The structural properties of photographic emulsions and of their resolution capacity." Yu. M. Prokhotskiy and Yu. B. Vilenskiy dealt with "Silver-halogen photographic emulsions with microcrystals of layer structure". G. P. Fayerman presented the topic "The effect of some emulsion stabilizers in various stages of synthesis and the storage of photographic emulsions." B. M. Ivanov and V. Ya. Pochinka discussed "An investigation of the stabilizers of photographic emulsions." The third session covered optical sensitization and the aging of photographic emulsions. L. G. Gross reported "An investigation of the effect of bromine ions and of the activators of optical sensitization on the phototransmitting capacity of the emulsion layer and on the depth of the hidden image." A. A. Sadyukova, M. D. Mirmil'shteyn, and P. V. Meyklyar presented a paper on "The effect of desensitizing agents and of the medium on the photosensitivity of sensitized photographic layers." A. S. Kheynman and V. P. Donatova dealt with the topic "The aging of infrachromatic layers." N. V. Siletskaya and S. I. Ryabkina presented a paper on "Enhancing the photosensitivity and the

Card 2/5

ACCESSION NR: AP4026821

stability of infrachromatic photographic materials." The topic of the fourth session was photographic gelatin and its substitutes, as well as the physicomechanical properties of emulsion layers. The introductory address by V. A. Bekunov was on "Photographic activity of gelatin", which was followed by a paper on "The photographic activity of gelatin in relation to its method of production," given by Ye. A. Zimkin, V. F. Klynchevich, Ya. B. Devyatov, and L. N. P'yankova. V. L. Zelikman, E. D. Korneva, S. M. Levi, and O. K. Smirnov reported on "Tanning of the emulsion layers intended for rapid photographic treatment." L. A. Khismatulina, S. M. Levi, L. M. Bogdanov, V. A. Kukhtin, and V. V. Kulina submitted a report on "The application of synthetic polymers in the manufacture of photosensitive materials." B. A. Tsarev, L. M. Zaytseva, V. V. Babkin, and L. I. Khramova discussed "Synthetic polymers as substitutes for gelatin in photographic emulsions." The fifth session was devoted to the extrusion method of pouring and the means for the separation of the solid phase of photographic emulsions. In the introductory address, S. M. Levi, T. M. Tsvetkov, and A. I. Babchin dealt with "The physical foundations of the extrusion method of pouring photographic emulsions and the role this method played in the development of cinematographic materials." D. A. Dusheyko, N. A. Petrova, S. A. Donskaya, Z. Ya. Shevchenko, and Yu. B. Vilenskiy

Card 3/5

ACCESSION NR: AP4026821

discussed "The method of synthesis of photographic emulsions with the separation of the solid phase by means of polymeric coagulants." G. M. Tsvetkov, L. M. Bogdanov, S. M. Levi, and T. K. Stepanova submitted a report on "The synthesis of photographic emulsions with the separation of the solid phase." V. I. Lipchanskaya spoke on "The peculiarities of technology in the synthesis of photographic emulsions with the precipitation of the solid phase by mechanical means." T. B. Kolesova presented a paper on "The development of the technology for the preparation of photographic emulsions with the precipitation of the solid phase." The last session was devoted to the technology of synthesis of photographic emulsions. S. M. Levi reported on the work of A. V. Borin, S. M. Levi, N. V. Makarov, N. V. Mishanova, T. M. Moshkina, A. I. Rybinkova, O. K. Smirnov, and A. M. Churayeva on the sensitizing effect of the polymers of ethylene oxide, polyglycols, and their derivatives in relation to their chain length. V. L. Zelikman and V. A. Dmitriyeva gave a report entitled "The most important features in the technology of thin film production for the moving picture industry." S. A. Bongard and M. I. Vinitskaya presented a paper on "Some features of emulsion layers to obtain relief washouts." V. V. Vasil'yev reported on "The investigation of the possibility of increasing the sensitivity of fine-grained photographic emulsions." L. G. Sandler gave a report dealing with "A study on the effect of cystine on the photographic

Card 4/5

ACCESSION NR: AP4026821

properties of silver chloride emulsion." The conference adopted a resolution stating that, in spite of the number of successes in the field of production technology of photosensitive layers, there exist deficiencies in solving theoretical problems on the chemistry of photographic emulsions. There is also a lag in implementing the findings of completed scientific research. As a result, the conference made a number of recommendations for the establishment of experimental units at existing industrial photographic enterprises. Further expansion of the work on synthesizing of high polymer substitutes for gelatin and of new tanning agents for gelatin and polymer films was recommended.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: ES NO REF SOV: 000 OTHER: 000

Card 5/5

LYALIKOV, K.S.; IVKINA, Ye.G.

Entropy of aerial photography. Usp.nauch.fot. 10:94-101 '64.
(MIRA 17:10)

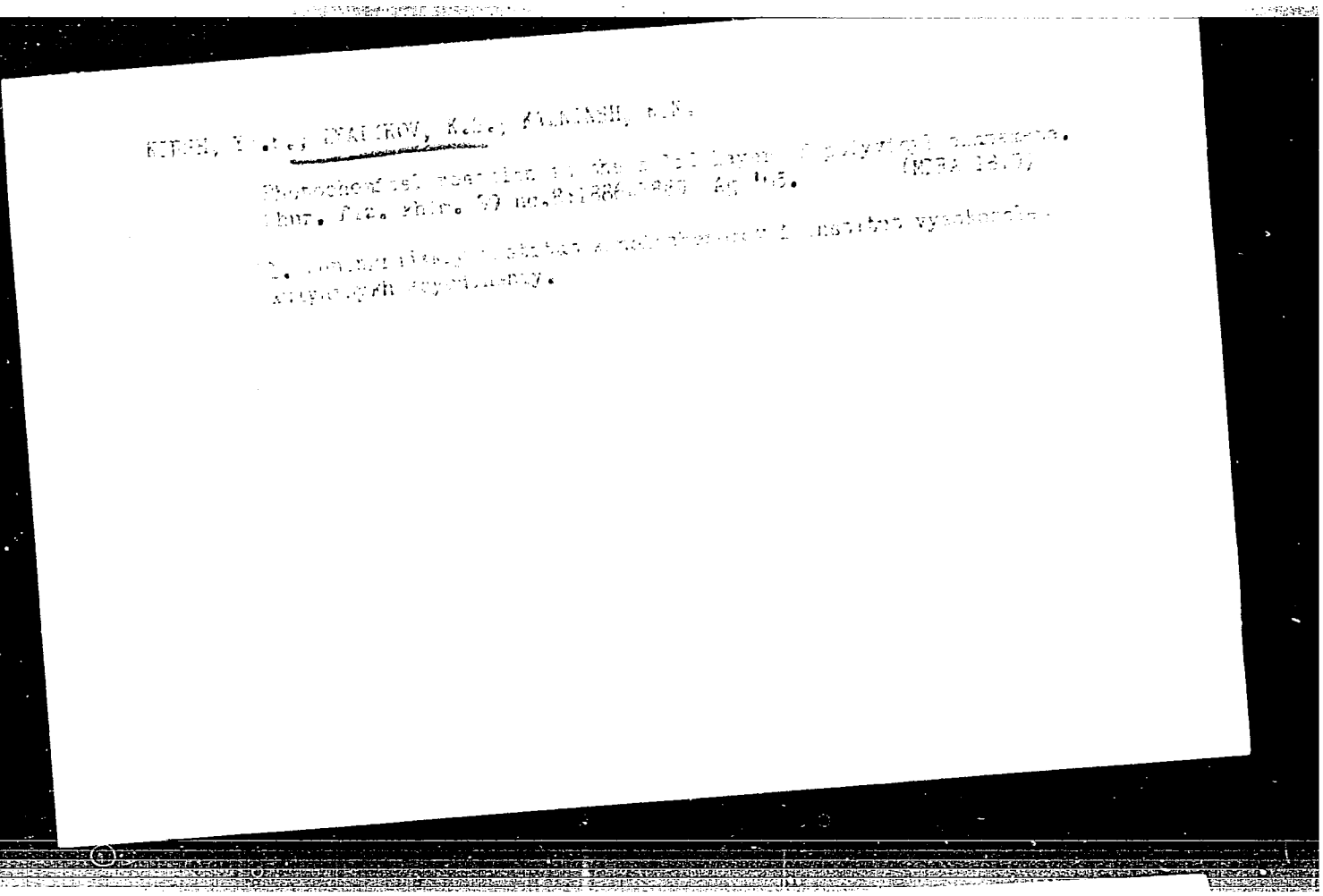
LYALIKOV, K.S.

Causes of the accelerated growth of grains during the ripening of photographic emulsions. Zhur. nauch. i prikl. fot. i kin. 9 no.5:396-398 S-O '64. (MIRA 17:10)

LYALIKOV, K.S.; KIRSH, Yu.E.; KOVALEVA, K.A.; AVGUSTINOVICH, N.P.

Sensitometry of light sensitive polymers. Zhur.nauch.i prikl.fot. i kin. 10 no.3:200-206 My-Je '65. (MIRA 18:11)

1. Leningradskiy institut kinoinzhenerov.



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LYALIKOV, N.I.

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ACC NR: AP6009857 (A) SOURCE CODE: UR/0413/66/000/004/0050/0051

42
B

INVENTOR: Losavio, G. S.; Lyalikov, M. B.; Sagura, I. N.; Rykin, M. N.

ORG: none

TITLE: Starting fluid [announced by State Scientific-Research Institute of Automotive Transport (Gosudarstvenny nauchno-issledovatel'skiy institut avtomobil'nogo transporta)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 50-51

TOPIC TAGS: liquid fuel, diethyl ether, engine starter system

ABSTRACT: An Author Certificate has been issued for a starting fluid containing diethylether. To minimize starting wear in a cold motor, industrial oil 12 is added up to 60% of the fluid by weight. [LD]

SUB CODE: 21/ SUBM DATE: 21Mar63/

3

Card 1/1

LYALIKOV, N. N., IVANOV, M. V., KUZNETSOV, S. I., and SOLOKIN, Y. I.

"Application of Radioactive Isotopes to the Study of Processes of Photosynthesis and Chemosynthesis and Chemosynthesis in Lakes," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

LYALIKOV, S. I.

USSR.

Alkaloid content of some solanaceous plants grown in the Moldavian S.S.R. S. I. Lyalikov. *Trudy Kishinev. Med. Inst.* 3, 45–7(1953); *Referat. Zhur., Khim.* 1954, No. 32850.—The amt. of alkaloids (I) in *Atropa belladonna*, *Datura stramonium*, and *Hyoscyamus niger*, grown in Moldavia, was detd. before, during, and after the flowering time of the plants. I was detd. in leaves, stalks, and roots. The largest amt. of I was found during the flowering time, and therefore, the harvesting of leaves for medical purposes is recommended then. All plants contained an amt. of I higher than that required by the State Pharmacopeia of U.S.S.R., VIII Ed. The use of the plants for the production of I is recommended.

B. Wierbicki

LYALIKOV, S.I.; SHCHETININA, Ye., red.; ZHEMANYAN, N., tekhn. red.

[Poisonings by toxic chemicals and first aid for them] Otravleniia iadokhimikatami i pervia pomoshch' pri nikh. Izd.2., dop. Kishinev, Karta moldoveniaske, 1962. 61 p. (MIRA 15:6)
(POISONING)

LYALIKOV, S.I.; SHCHETININA, Ye., red.

[Medicinal plants of the Moldavian S.S.R.] Lekarstvennye rasteniia Moldavskoi SSR. Izd.2., dop. Kishinev, Kartia moldoveniaske, 1963. 70 p. (MIRA 17:5)

LYALIKOV, V. S.

PA 4/49T11

USSR/Chemistry-Polarography, In Industrial Laboratories — Feb 48

Chemistry-Polarography, Electrodes in

"A Rigid Immersed Electrode and Its Use in Polarography," V. S. Lyalikov, V. I. Karmazin, Krivoy Rog Mining and Ore Inst, 6 pp

"Zavod Lab" Vol XIV, No 2

Describes new-type electrode, consisting of platinum needle immersed in electrolyte. Intermittent contact is assured by a stream of gas bubbles. Investigates effects of temperature, bubble speed, and depth of immersion of anode and cathode on polarogram. Constructs calibration curves for lead, copper, and Cadmium. Relation between wave height and concentration is straight line. Further experimental investigation must precede introduction of the electrode into laboratory practice.

4/49T11

SOV/106-58-10-4/13

AUTHORS: Nadenenko, B.S., Lyalikov, V.V.

TITLE: Analysis of the Directional Properties of an Angle Antenna (Analiz napravlennykh svoystv ugolkovoy antenny)

PERIODICAL: Elektrosvyaz', 1958, Nr 10, pp 26 - 31 (USSR)

ABSTRACT: Calculation of the polar diagram of an angle antenna by the mirror image method leads to considerable error when the dimensions of the reflector are comparable with the wavelength. In this article an approximate method of calculation of the polar diagram in the plane perpendicular to the edge of the reflector is described. The polar diagram in this plane depends on the length of the reflector (b of Fig 1) and to a much smaller degree on the width of the reflector. Therefore, in this analysis, it is assumed that the width of the reflector is infinite. The angle antenna is shown in Fig 1. The edge of the reflector coincides with the z axis of a cylindrical system of co-ordinates. The dimension of the reflector along the z axis is infinite. The antenna is excited by an infinitely long conductor parallel to the z axis. A syn-phase current of constant value flows in the conductor. The problem of radiation from an infinitely long conductor carrying a

Card 1/3

Analysis of the Directional Properties of an Angle Antenna

syn-phase current, placed in an angle reflector of infinite dimensions was solved in Ref 1. The vector potential of the electromagnetic field of the conductor is given by Equation (1), in which the following symbols are used:

$H^{(2)}_{\frac{m\pi}{\alpha}}(kR)$ - Hankel function of the second type of $\frac{m\pi}{\alpha}$ order;

$I_{\frac{m\pi}{\alpha}}(ka)$ - Bessel function of the $\frac{m\pi}{\alpha}$ order;

R), φ) - Co-ordinates of the point at which the vector potential is calculated;

a), γ) - Co-ordinates of the radiating conductor.

It is found that the vector potential of an angle antenna with an infinite reflector is given by Equation (10) where A^{Σ} is the vector potential defined by the current in the exciting conductor. For determination of the vector

Card 2/3

Analysis of the Directional Properties of an Angle Antenna

potential of an angle antenna with a reflector of finite dimensions, it is necessary to integrate in Equation (10) over the limits 0 to b, where b is the length of the reflector. The distribution of current in the reflector of finite dimensions will differ somewhat from the current distribution in an infinite reflector but experimental results show that the change in distribution can be ignored in practice. Considering that the electric field strength is directly proportional to the vector potential, Equation (14) is obtained for calculation of the polar diagram of an angle antenna. For convenience of calculations, the auxiliary function $R(kb, \varphi)$ is calculated for different values of kb and the results tabulated in Table 1. Candidate of Technical Sciences V.G. Yampol'skiy gave advice in this work. There are 5 figures, 1 table and 1 reference (Soviet).

Card 3/3 SUBMITTED: April 26, 1958

SAFRONKOVA, N.N.; LYALIKOV, Yu.S.

Chemical analysis of semiconductor alloys of In - Sb - Te systems. Zav. lab. 27 no.1:21-22 '61. (MIRA 14:3)

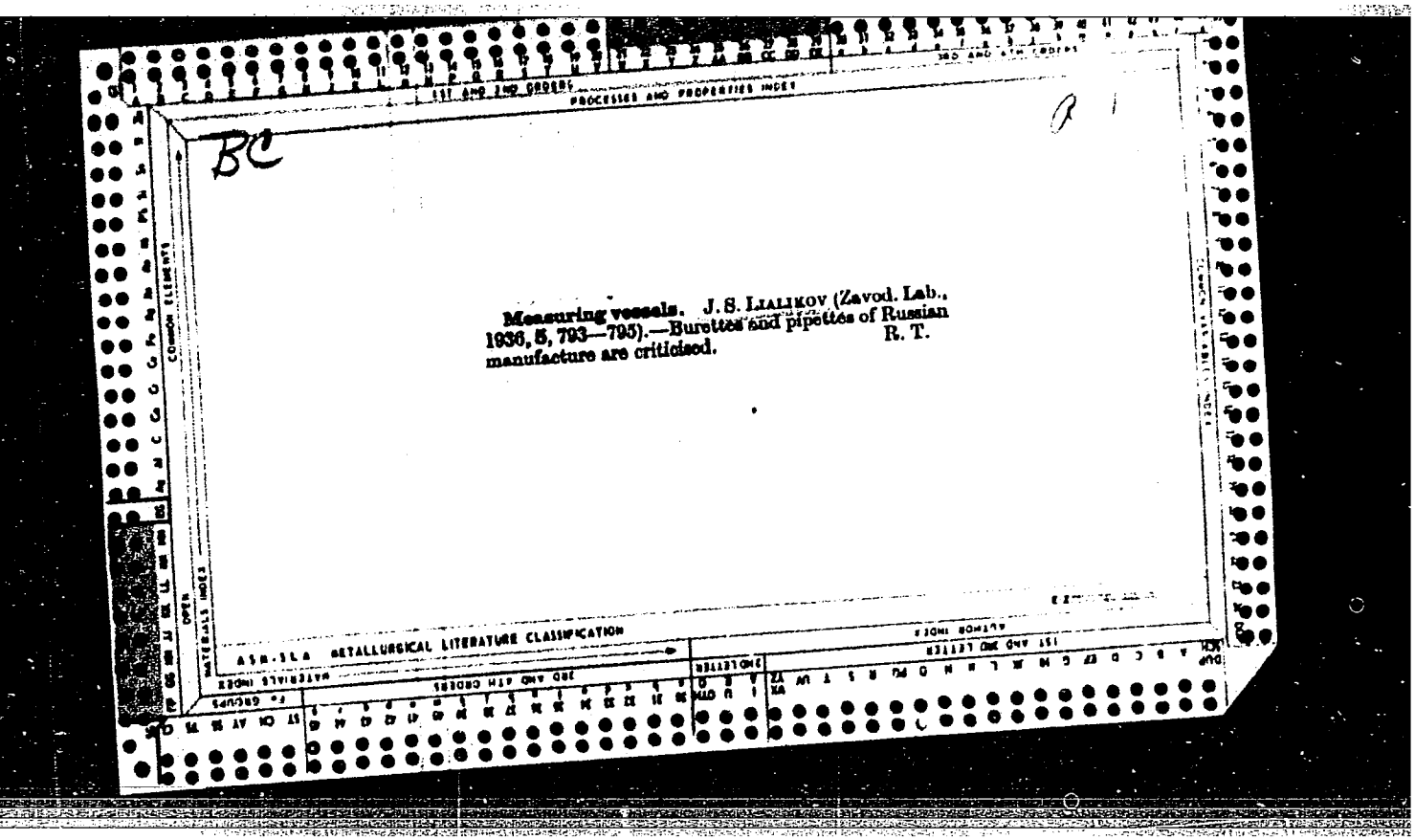
1. Institut khimii Moldavskogo filiala Akademii nauk SSSR.
(Indium--Analysis) (Antimony--Analysis (Teleurium--Analysis)

CHIKRYZOVA, Ye.G., red.; LYALIKOV, Yu.S., red.; LIPIS, B.V., red.; DMITRENKO, N.Z., red.; SHCHETININA, Ye.A., red.; LEDVICH, M.M., tekhn. red.

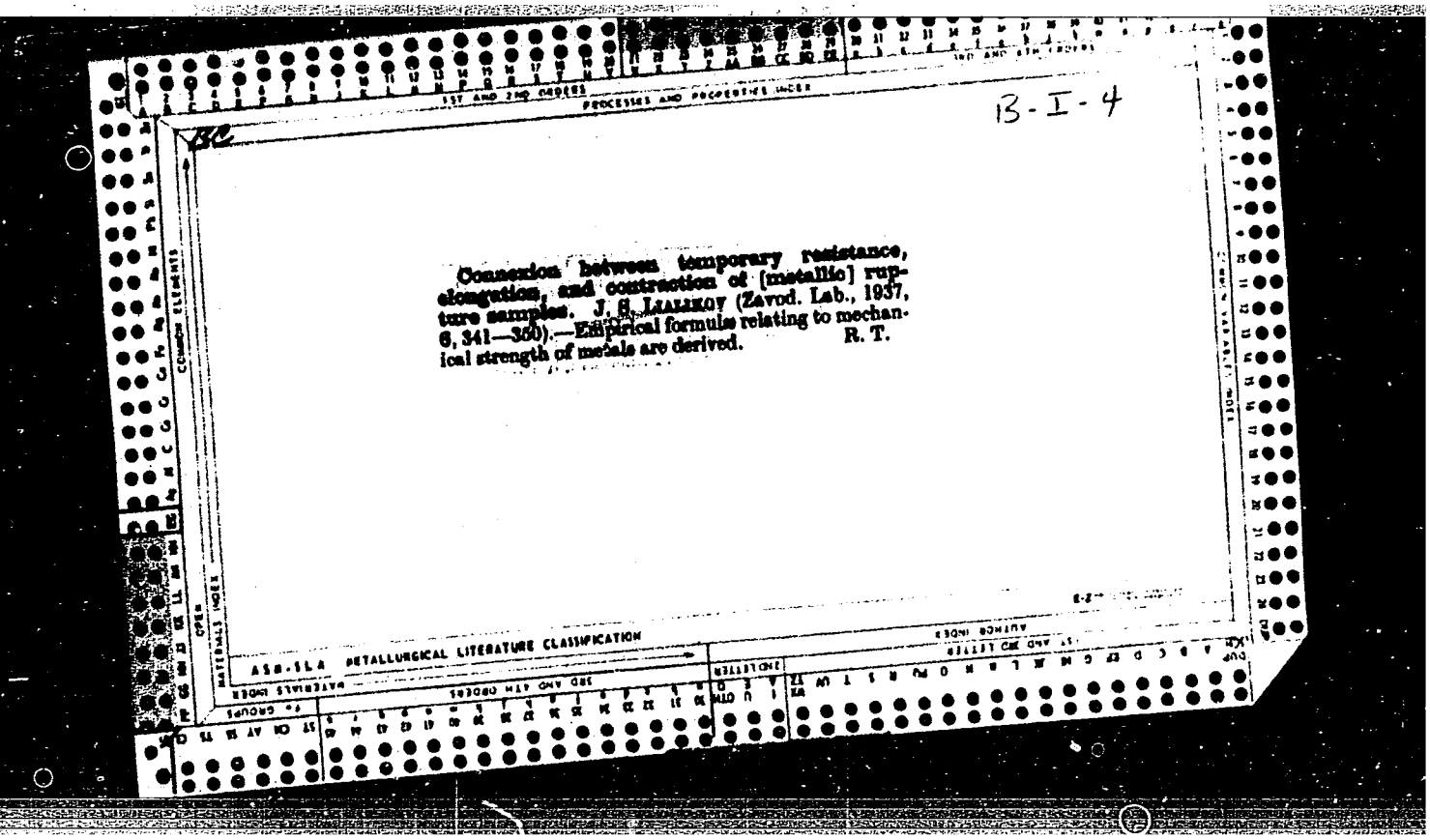
[Theory and practice of polarographic analysis]Teoriia i praktika poliarograficheskogo analiza; materialy. Kishinev, Izdvo "Shtiintsa" Akad. nauk Moldavskoi SSR, 1962. 425 p. (MIRA 15:12)

1. Vsesoyuznoye soveshchaniye po polyarograficheskomu analizu. 1st, 1959.

(Polarography—Congresses)

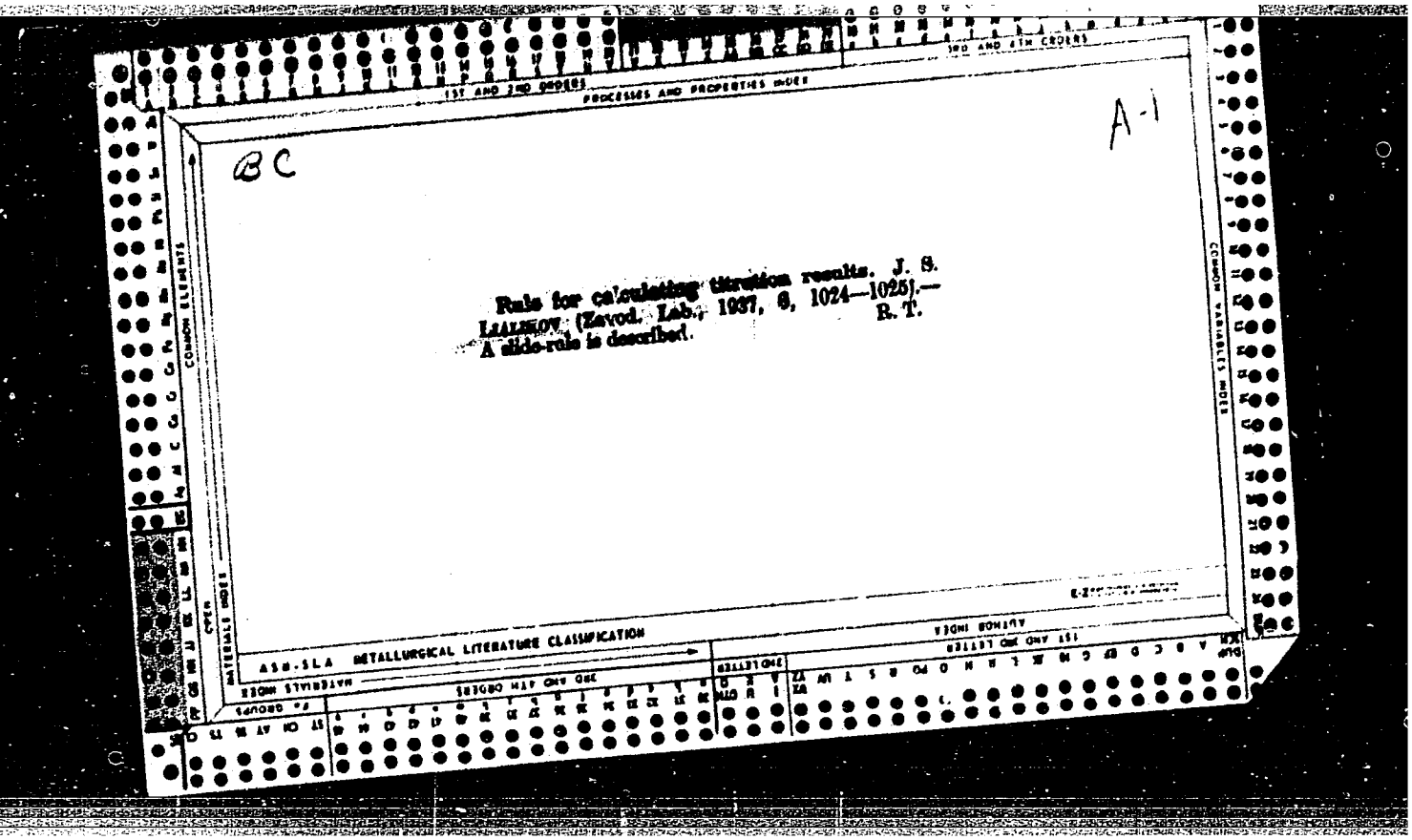


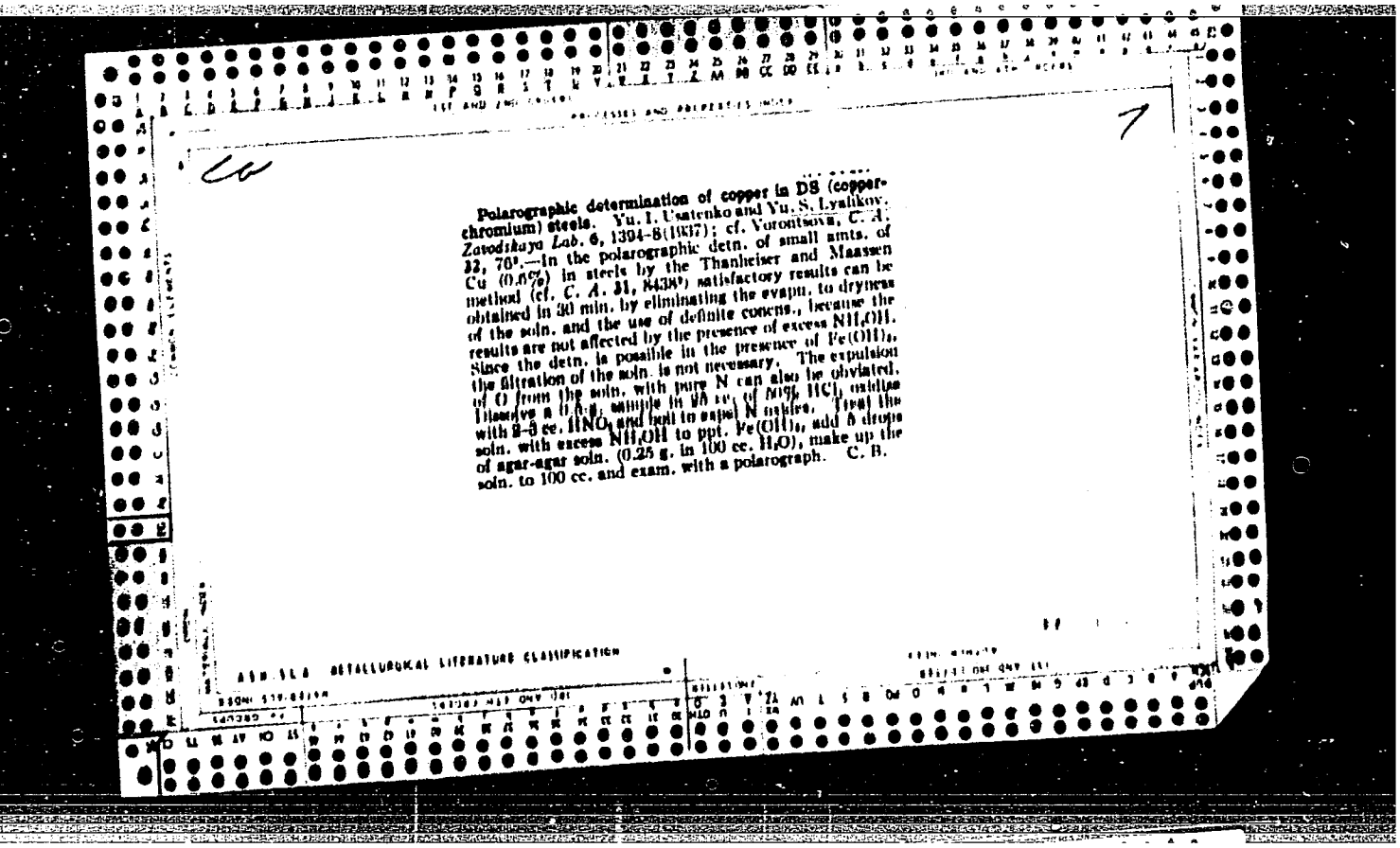
Measuring vessels. J. S. LIALIKOV (Zavod. Lab., 1936, 5, 793—795).—Burettes and pipettes of Russian manufacture are criticised. R. T.



13-I-4

Connexion between temporary resistance, elongation, and contraction of [metallic] rupture samples. J. S. Lialikov (Zavod. Lab., 1937, 6, 341—350).—Empirical formulæ relating to mechanical strength of metals are derived. R. T.

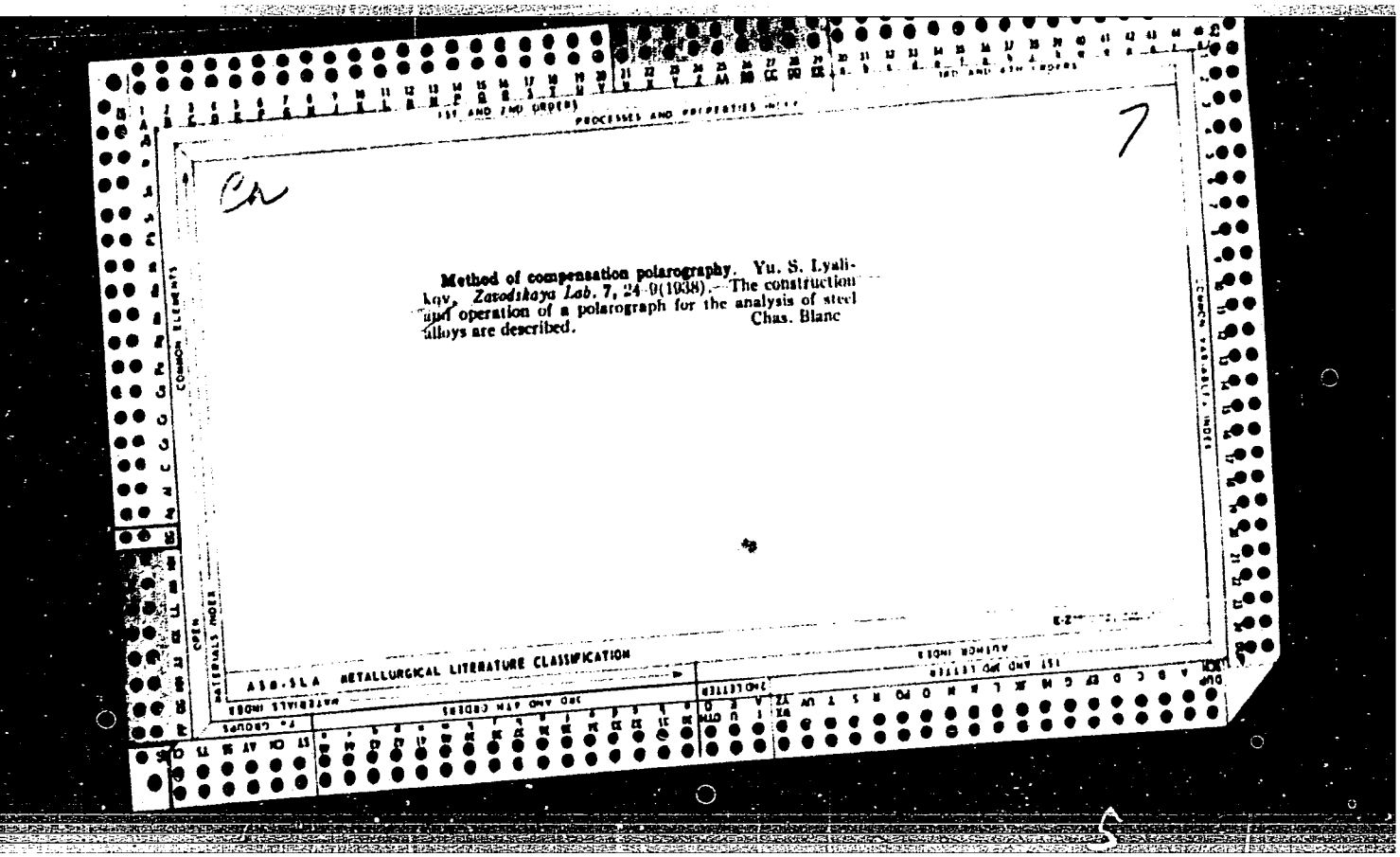




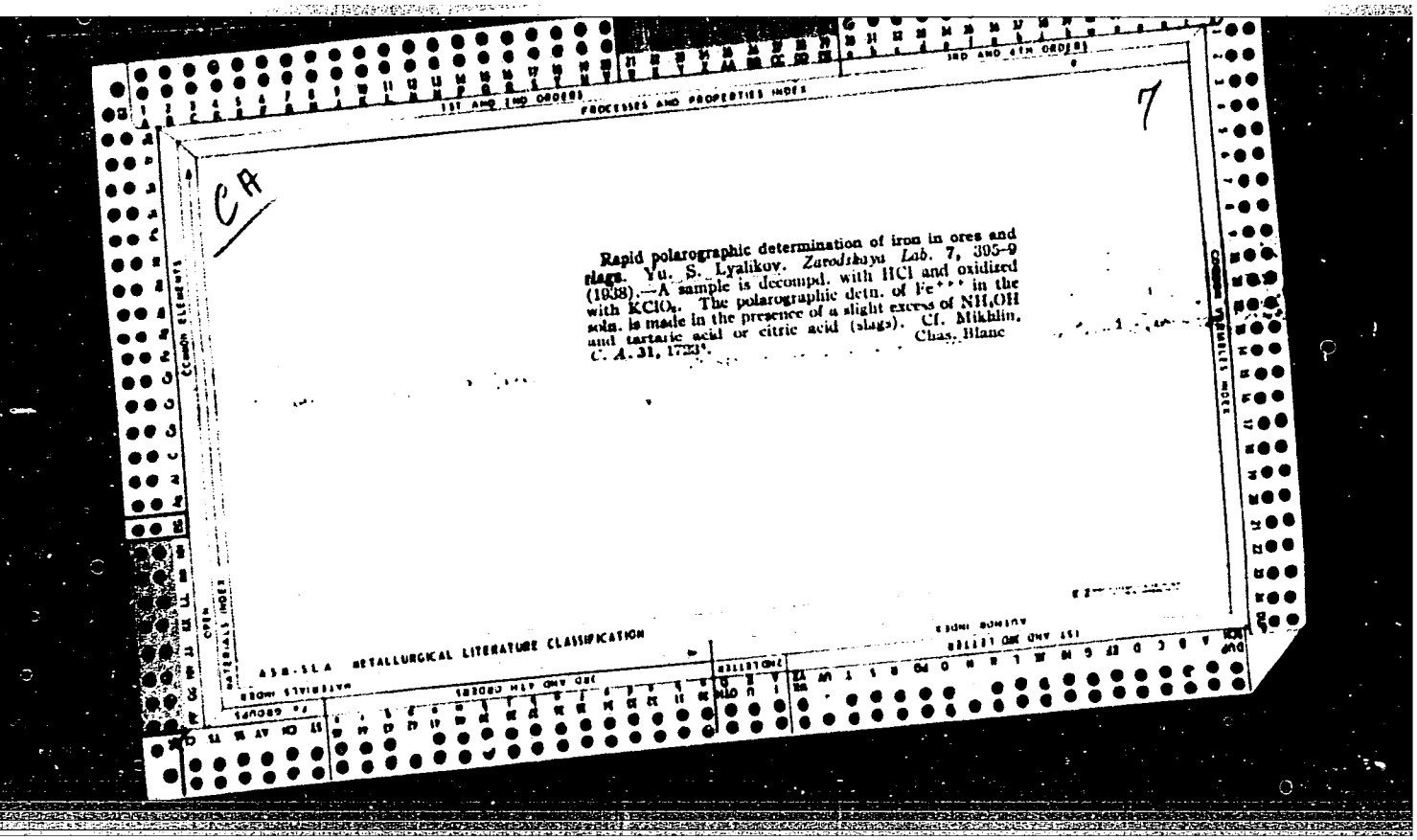
Cu

Polarographic determination of copper in DS (copper-chromium) steels. Yu. I. Usatenko and Yu. S. Lyalikov. *Zavodskaya Lab.* 6, 1394-8(1937); cf. Vorontsova, C. A. 32, 76⁹.—In the polarographic detn. of small amts. of Cu (0.6%) in steels by the Thanheiser and Maassen method (cf. *C. A.* 31, 8438⁹) satisfactory results can be obtained in 30 min. by eliminating the evapn. to dryness of the soln. and the use of definite concns., because the results are not affected by the presence of excess NH_4OH. Since the detn. is possible in the presence of $Fe(OH)_3$, the filtration of the soln. is not necessary. The expulsion of O from the soln. with pure N can also be obviated. Dissolve a 0.5-g. sample in 20 cc. of 50% HCl, oxidize with 2–3 cc. HNO_3 and boil in expel N oxides. Treat the soln. with excess NH_4OH to ppt. $Fe(OH)_3$, add 5 drops of agar-agar soln. (0.25 g. in 100 cc. H_2O), make up the soln. to 100 cc. and exam. with a polarograph. C. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



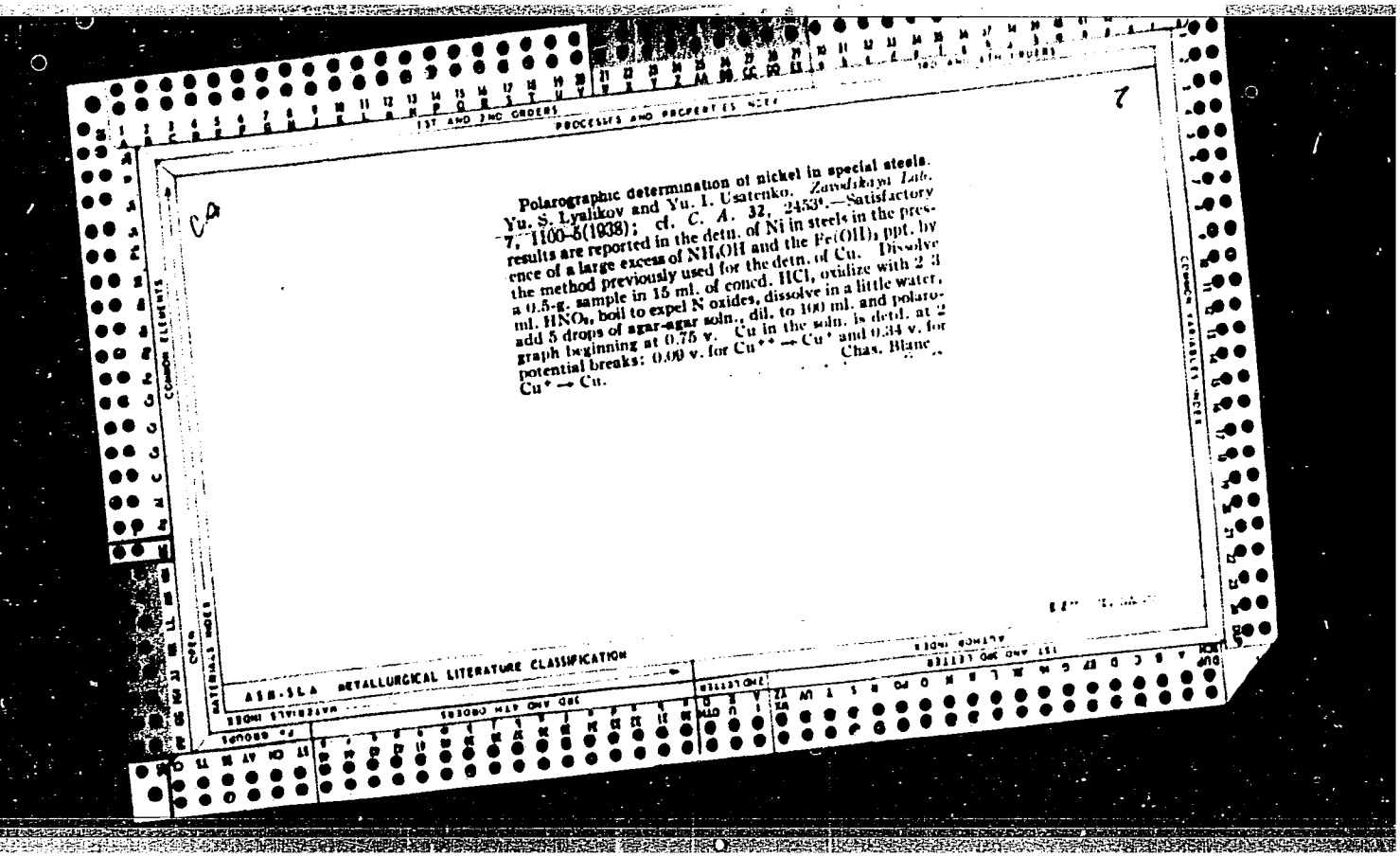
Method of compensation polarography. Yu. S. Lyalikov. *Zavodskaya Lab.* 7, 24–9(1938).—The construction and operation of a polarograph for the analysis of steel alloys are described. Chas. Blanc



CA

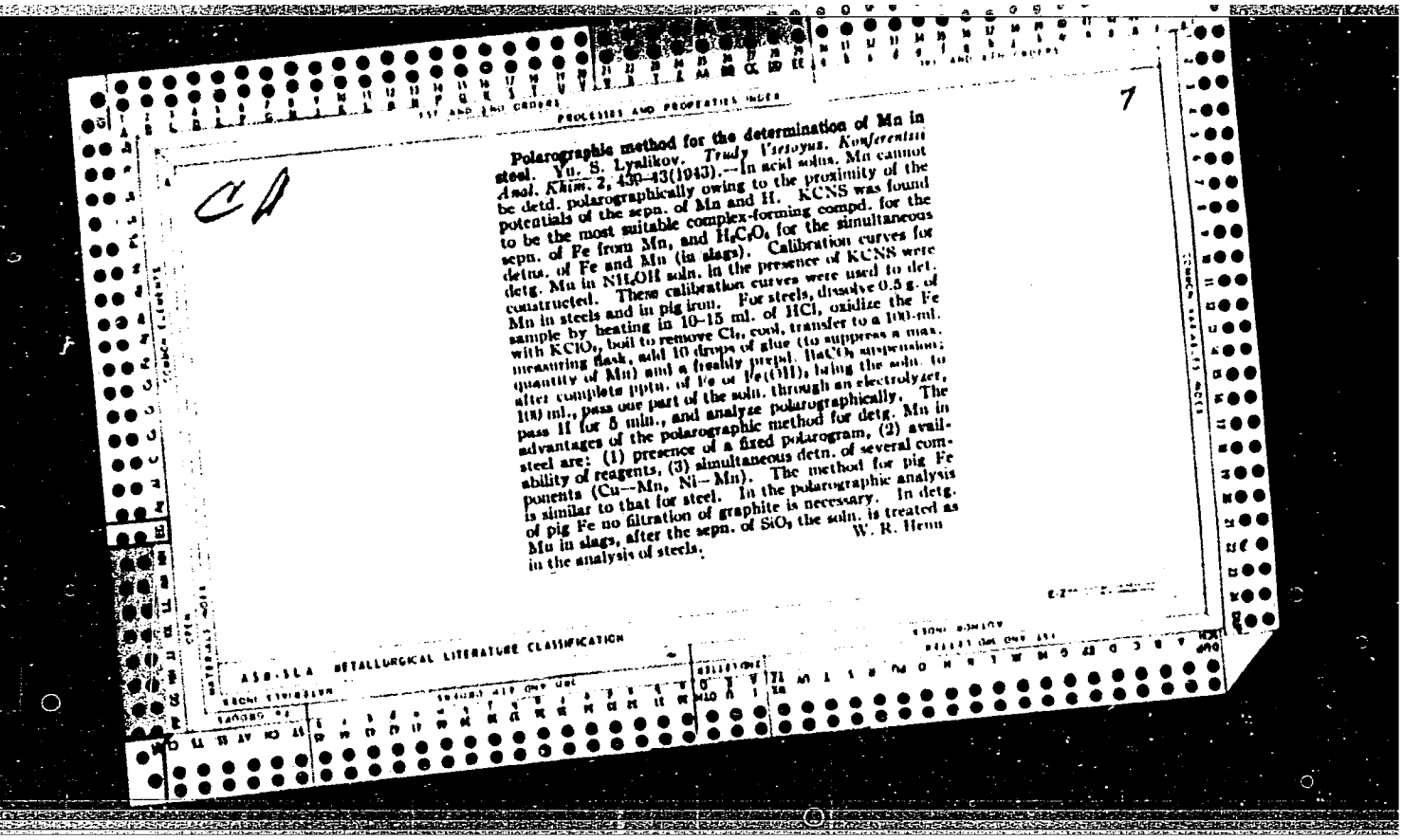
7

Rapid polarographic determination of iron in ores and slags. Yu. S. Lyalikov. *Zavodskaya Lab.* 7, 395–9 (1938).—A sample is decompd. with HCl and oxidized with $KClO_3$. The polarographic detn. of Fe^{+++} in the soln. is made in the presence of a slight excess of NH_4OH and tartaric acid or citric acid (slags). Cf. Mikhlin, *C. A.* 31, 1723⁴. Chas. Blanc



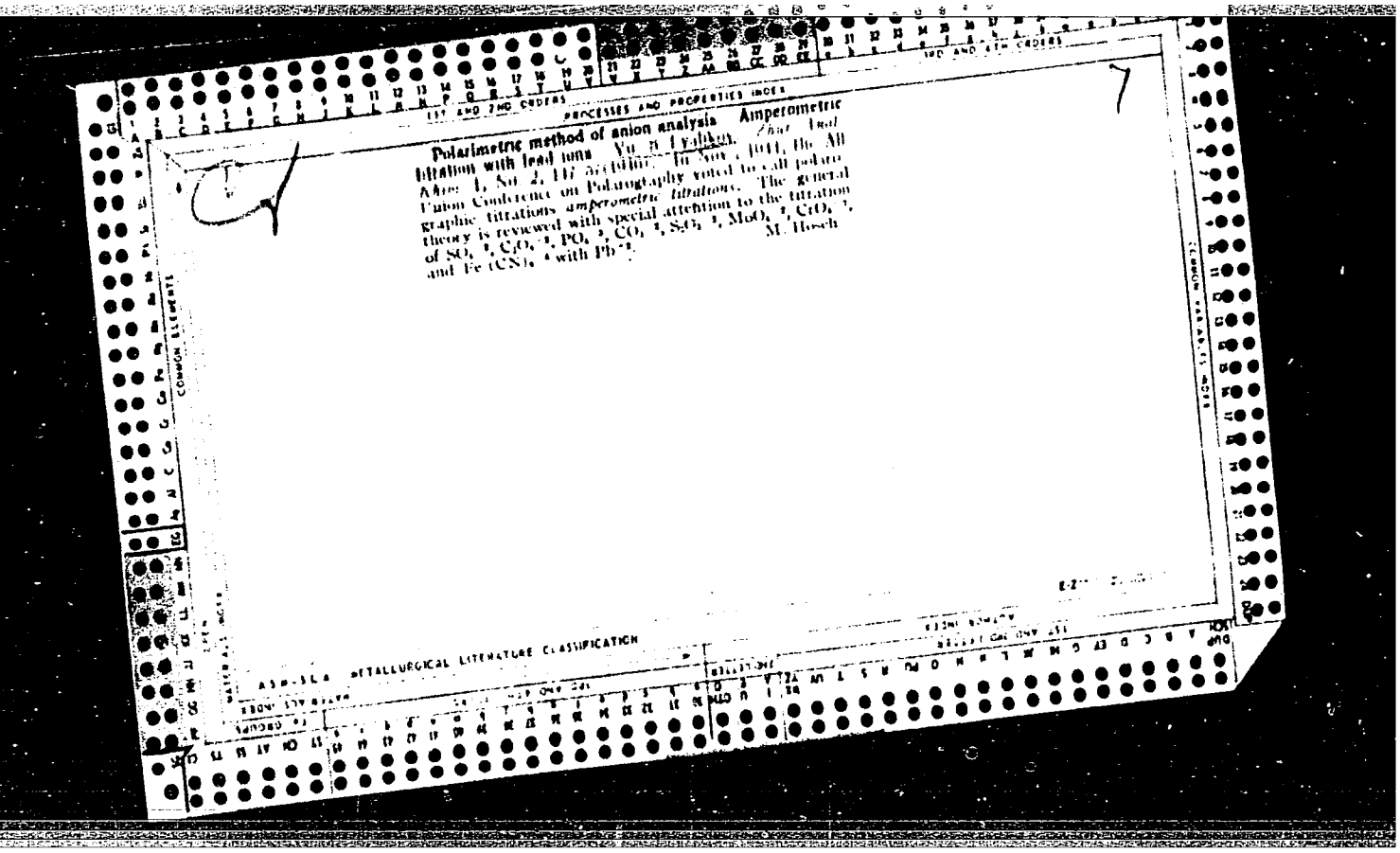
Polarographic determination of nickel in special steels. Yu. S. Lyalikov and Yu. I. Usatenko. *Zavodskaya Lab.* 7, 1100-5(1938); cf. *C. A.* 32, 2453⁹.—Satisfactory results are reported in the detn. of Ni in steels in the presence of a large excess of NH_4OH and the $Fe(OH)_3$ ppt. by the method previously used for the detn. of Cu. Dissolve a 0.5-g. sample in 15 ml. of concd. HCl, oxidize with 2-3 ml. HNO_3, boil to expel N oxides, dissolve in a little water, add 5 drops of agar-agar soln., dil. to 100 ml. and polarograph beginning at 0.75 v. Cu in the soln. is detd. at 2 potential breaks: 0.09 v. for $Cu^{++} \rightarrow Cu^{+}$ and 0.34 v. for $Cu^{+} \rightarrow Cu$.

Chas. Blanc



Polarographic method for the determination of Mn in steel. Yu. S. Lyalikov. *Trudy Vsesoyus. Konferentsii Anal. Khim.* 2, 439–43(1943).—In acid solns. Mn cannot be detd. polarographically owing to the proximity of the potentials of the sepn. of Mn and H. KCNS was found to be the most suitable complex-forming compd. for the sepn. of Fe from Mn, and $H_2C_2O_4$ for the simultaneous detns. of Fe and Mn (in slags). Calibration curves for detg. Mn in NH_4OH soln. in the presence of KCNS were constructed. These calibration curves were used to det. Mn in steels and in pig iron. For steels, dissolve 0.5 g. of sample by heating in 10–15 ml. of HCl, oxidize the Fe with $KClO_3$, boil to remove Cl_2, cool, transfer to a 100-ml. measuring flask, add 10 drops of glue (to suppress a max. quantity of Mn) and a freshly prepd. $BaCO_3$ suspension; after complete pptn. of Fe or Fe(OH)$_3$, bring the soln. to 100 ml., pass one part of the soln. through an electrolyzer, pass H for 5 min., and analyze polarographically. The advantages of the polarographic method for detg. Mn in steel are: (1) presence of a fixed polarogram, (2) availability of reagents, (3) simultaneous detn. of several components (Cu—Mn, Ni—Mn). The method for pig Fe is similar to that for steel. In the polarographic analysis of pig Fe no filtration of graphite is necessary. In detg. Mn in slags, after the sepn. of SiO_2 the soln. is treated as in the analysis of steels.

W. R. Henn

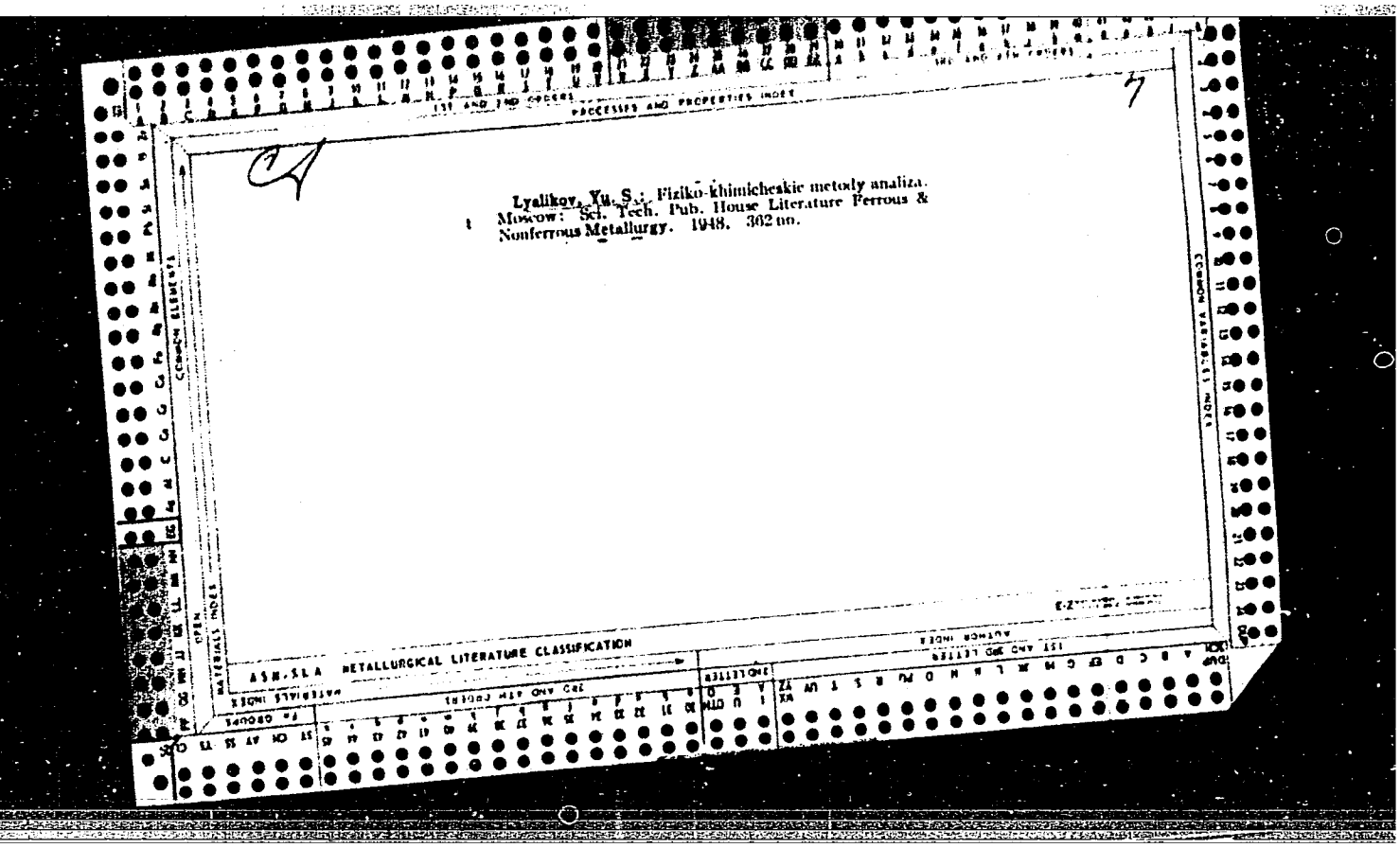


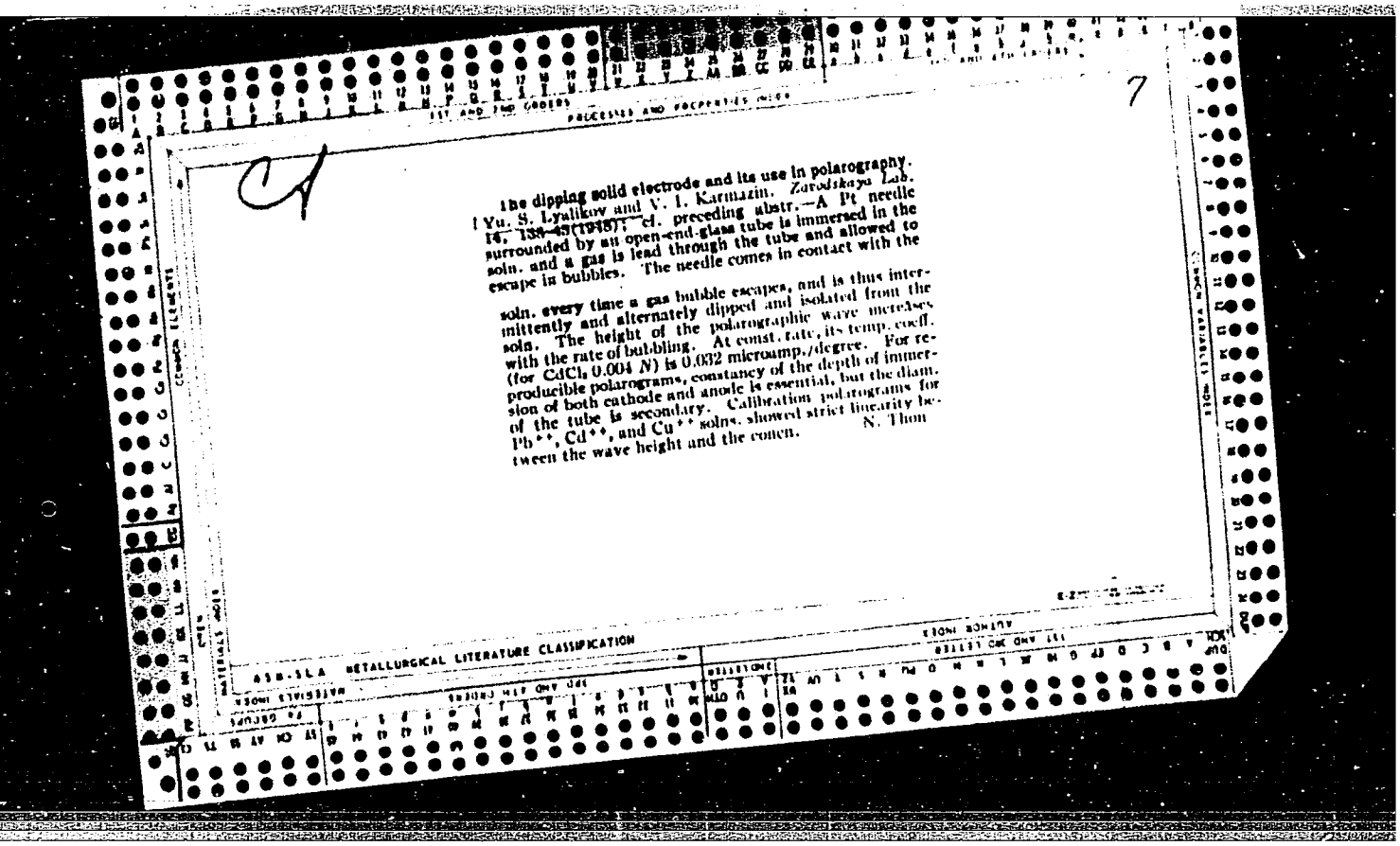
LYALIKOV, Yu. S.

Krivoy Rog Mining Inst. (-1946-)

"A Polarimetric Method for anion analysis. Ampervmetric titration with Pb^{2+}," (-1946-)

Zhur. Analit. Khim., No. 3, 1946.





The dipping solid electrode and its use in polarography. Yu. S. Lyalikov and V. I. Karmazin. *Zavodskaya Lab.* 14, 138–45(1948); cf. preceding abstr.—A Pt needle surrounded by an open-end-glass tube is immersed in the soln. and a gas is lead through the tube and allowed to escape in bubbles. The needle comes in contact with the soln. every time a gas bubble escapes, and is thus intermittently and alternately dipped and isolated from the soln. The height of the polarographic wave increases with the rate of bubbling. At const. rate, its temp. coeff. (for $CdCl_2$ 0.004 *N*) is 0.032 microamp./degree. For reproducible polarograms, constancy of the depth of immersion of both cathode and anode is essential, but the diam. of the tube is secondary. Calibration polarograms for Pb^{++}, Cd^{++}, and Cu^{++} solns. showed strict linearity between the wave height and the concn. N. Thon

LYALIKOV, YU. S.

PA 4/49T12

USSR/Chemistry-Analysis, Fusions - Feb 48
Chemistry-Polarography, Electrodes in

"The Use of Rigid Immersed Electrode in the Analysis of Fused Substances," Yu. S. Lyalikov, V. I Karmazin, Krivoy Rog Mining and Ore Inst, 5 pp

"Zavod Lab" Vol XIV, No 2

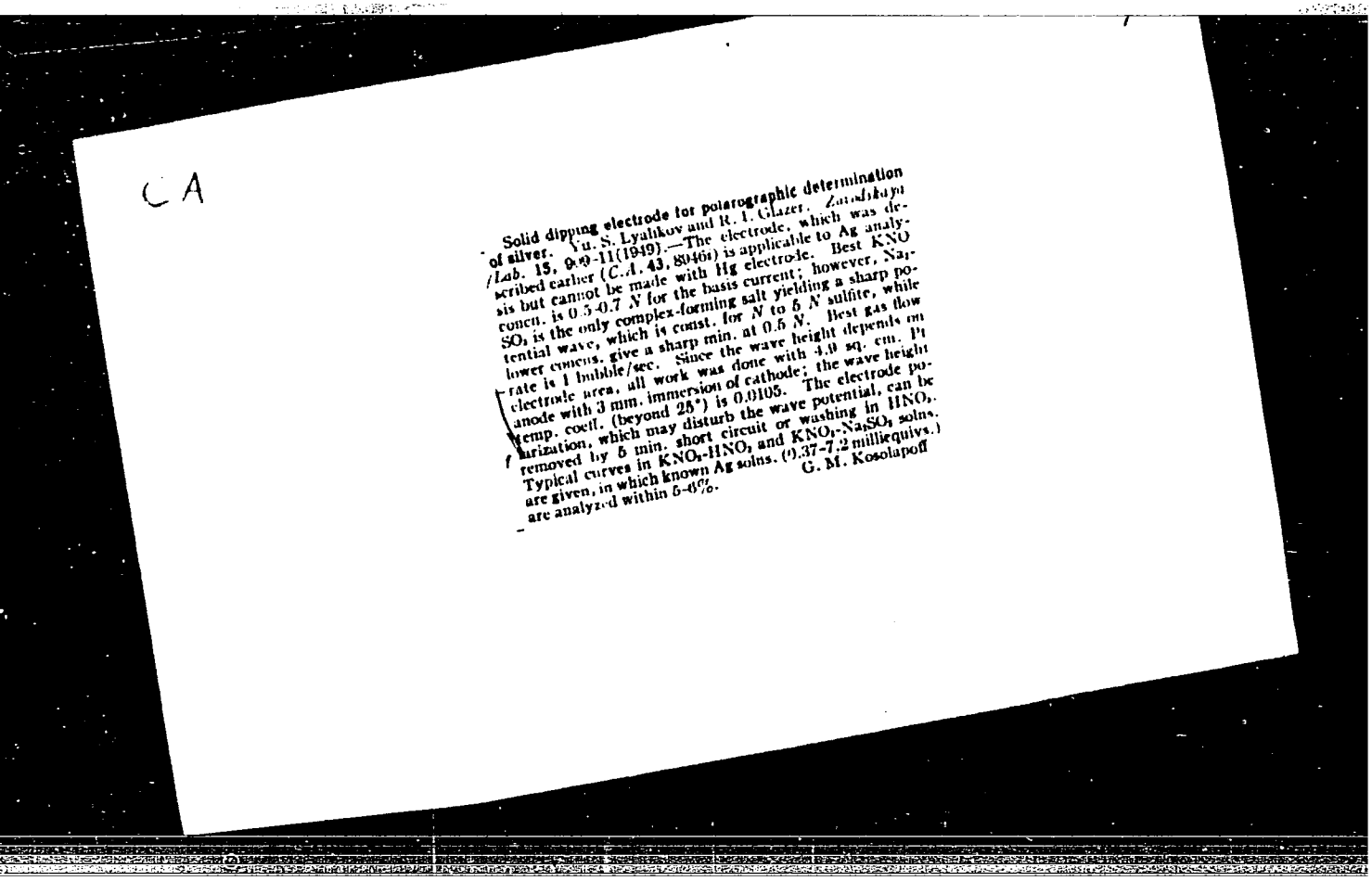
Shows that polarography can be applied to analysis of fused substances and investigates kinetics of dissociation of certain salts. Reduction of waves was observed when ions, reacting with polarographed ion to form insoluble, lightly dispersed precipitates, were added to the molten mixture [$Ba_3(PO_4)_2$

4/49T12

USSR/Chemistry-Analysis, Fusions (Contd) Feb 48

into KNO_3]. Certain salts and oxides were only slightly soluble in basic solution, and their ions were not present even when solution was saturated (TlCl, CuO, NiO, in KNO_3). Ion dissociation may not occur when salts are readily soluble in basic solution ($CuSO_4$ and $NiSO_4$ in $K_2S_2O_7$).

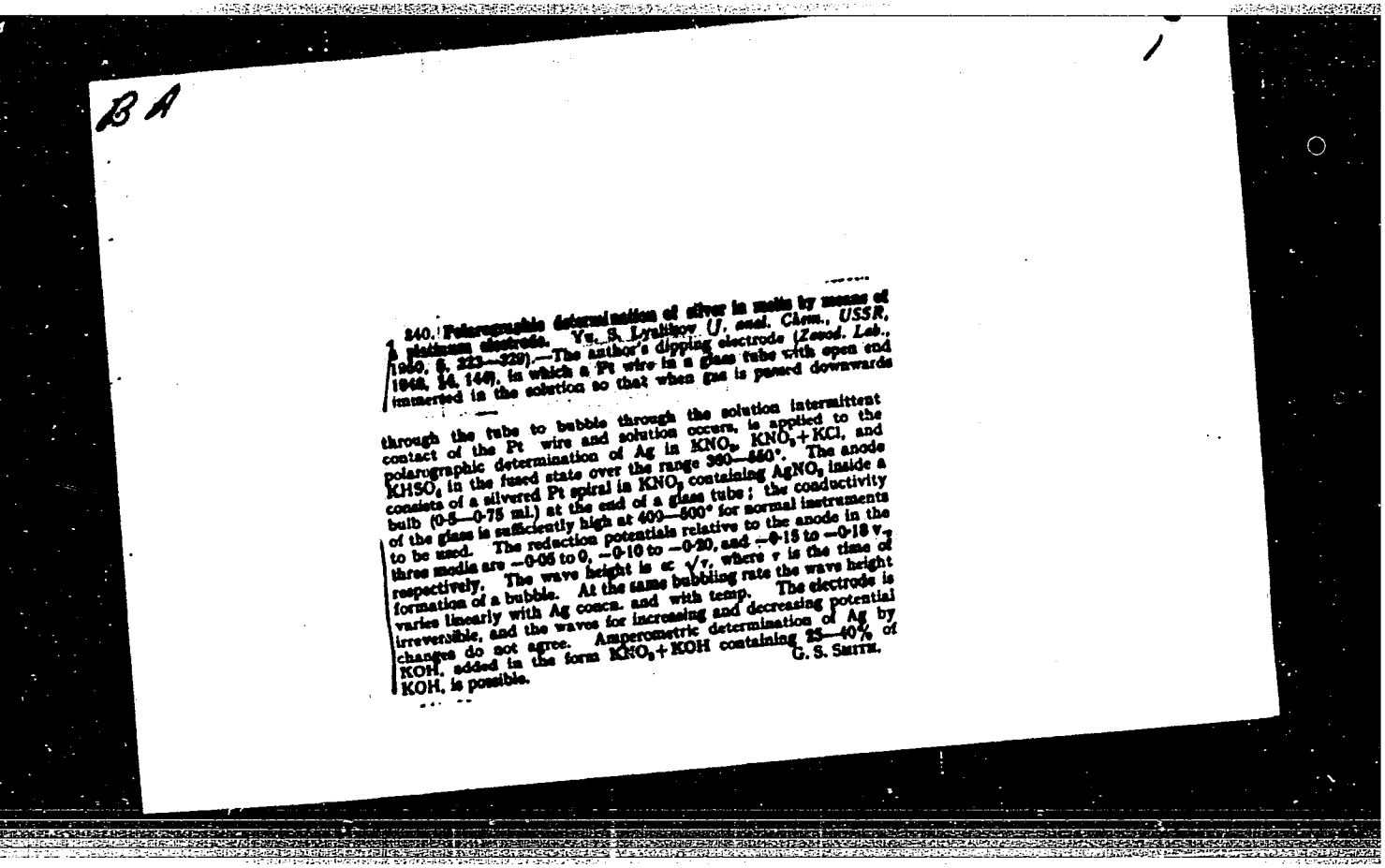
4/49T12



CA

Solid dipping electrode for polarographic determination of silver. Yu. S. Lyalikov and R. I. Glazer. *Zavodskaya Lab.* 15, 909-11(1949).—The electrode, which was described earlier (*C.A.* 43, 8046i) is applicable to Ag analysis but cannot be made with Hg electrode. Best KNO$_3$ concn. is 0.5-0.7 *N* for the basis current; however, Na$_2$SO$_3$ is the only complex-forming salt yielding a sharp potential wave, which is const. for *N* to 5 *N* sulfite, while lower concns. give a sharp min. at 0.5 *N*. Best gas flow rate is 1 bubble/sec. Since the wave height depends on electrode area, all work was done with 4.9 sq. cm. Pt anode with 3 mm. immersion of cathode; the wave height temp. coeff. (beyond 25°) is 0.0105. The electrode polarization, which may disturb the wave potential, can be removed by 5 min. short circuit or washing in HNO$_3$. Typical curves in KNO$_3$-HNO$_3$ and KNO$_3$-Na$_2$SO$_3$ solns. are given, in which known Ag solns. (0.37-7.2 milliequivs.) are analyzed within 5-6%.

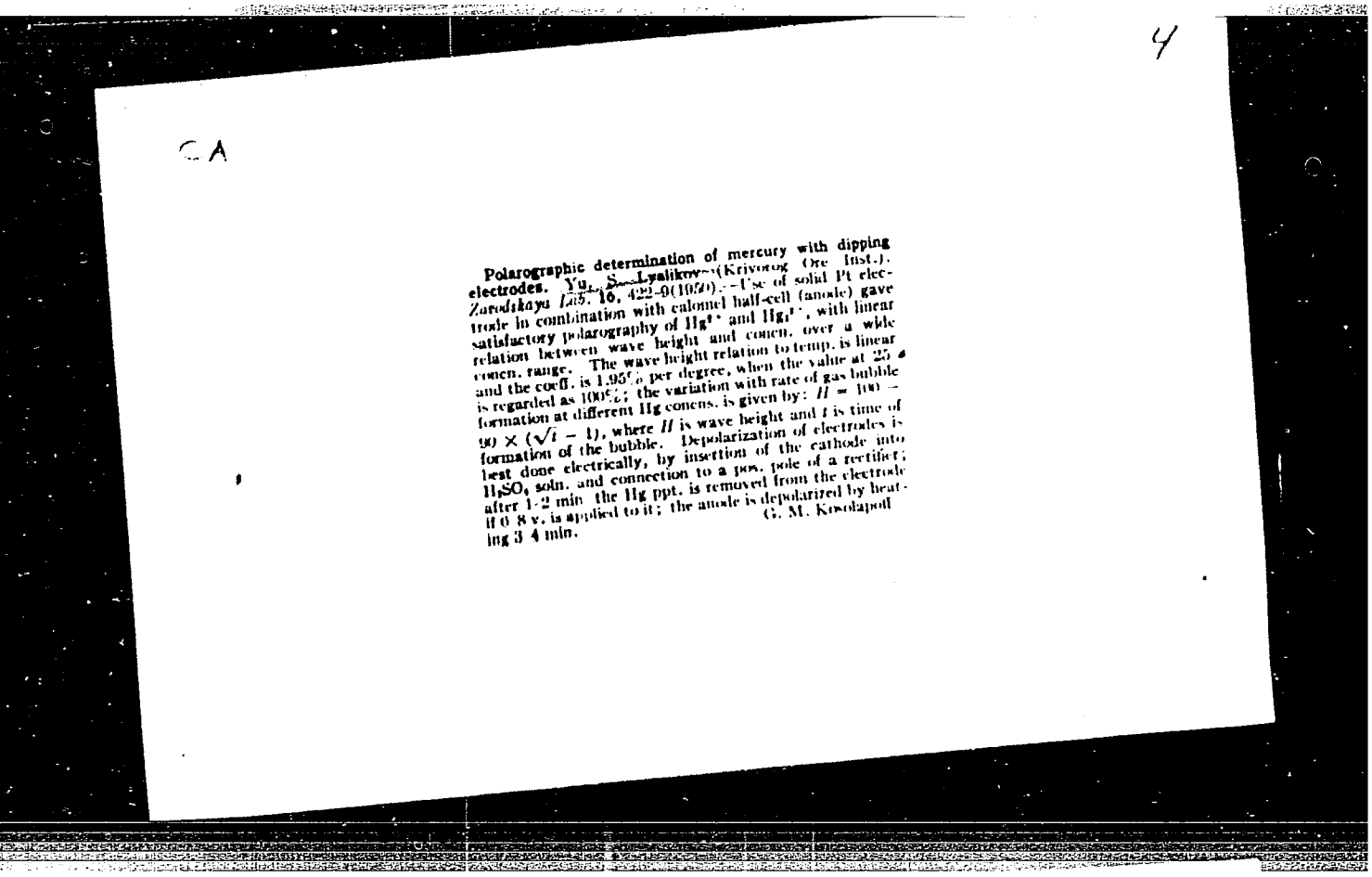
G. M. Kosolapoff



B A

840. Polarographic determination of silver in melts by means of a platinum electrode. Vs. S. Lyalikov. *U. zaval. Chem., USSR*, 1950, 6, 223—229).—The author's dipping electrode (*Zavod. Lab.*, 1948, 14, 149), in which a Pt wire in a glass tube with open end immersed in the solution so that when gas is passed downwards through the tube to bubble through the solution intermittent contact of the Pt wire and solution occurs, is applied to the polarographic determination of Ag in KNO_3, KNO_3+KCl, and $KHSO_4$ in the fused state over the range 360—440°. The anode consists of a silvered Pt spiral in KNO_3 containing $AgNO_3$ inside a bulb (0·5—0·75 ml.) at the end of a glass tube; the conductivity of the glass is sufficiently high at 400—500° for normal instruments to be used. The reduction potentials relative to the anode in the three media are −0·05 to 0, −0·10 to −0·20, and −0·15 to −0·18 v., respectively. The wave height is $\propto \sqrt{\tau}$, where τ is the time of formation of a bubble. At the same bubbling rate the wave height varies linearly with Ag concn. and with temp. The electrode is irreversible, and the waves for increasing and decreasing potential changes do not agree. Amperometric determination of Ag by KOH, added in the form KNO_3+KOH containing 25—40% of KOH, is possible.

G. S. SMITH.



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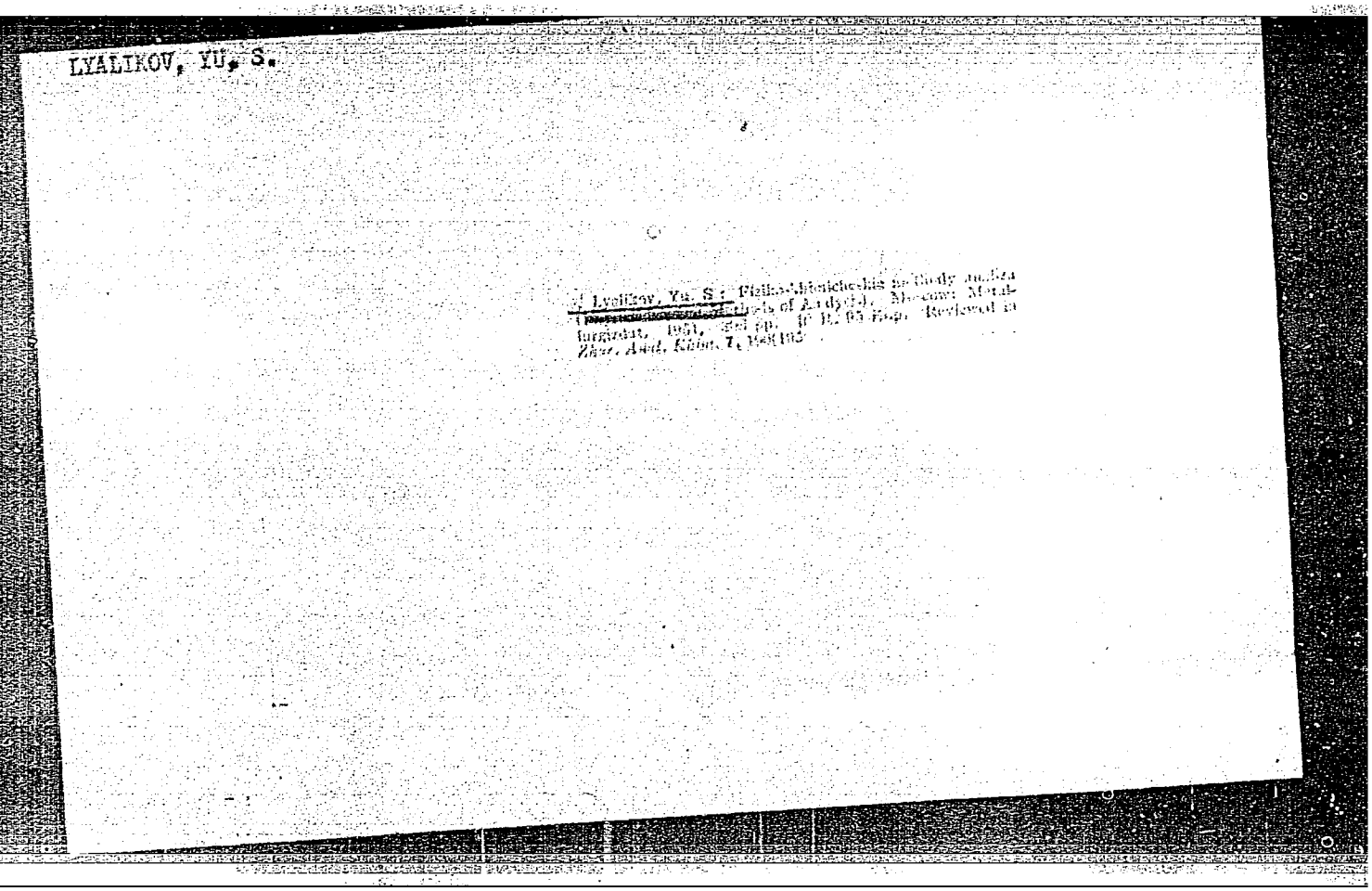
CA

Polarographic determination of mercury with dipping electrodes. Yu. S. Lyalikov (Kryvorog Ore Inst.). *Zavodskaya Lab.* 16, 422–9(1950).—Use of solid Pt electrode in combination with calomel half-cell (anode) gave satisfactory polarography of Hg^{++} and Hg_2^{++}, with linear relation between wave height and concn. over a wide concn. range. The wave height relation to temp. is linear and the coeff. is 1.95% per degree, when the value at 25° is regarded as 100%; the variation with rate of gas bubble formation at different Hg concns. is given by: $H = 100 - 90 \times (\sqrt{t} - 1)$, where H is wave height and t is time of formation of the bubble. Depolarization of electrodes is best done electrically, by insertion of the cathode into H_2SO_4 soln. and connection to a pos. pole of a rectifier; after 1–2 min. the Hg ppt. is removed from the electrode if 0.8 v. is applied to it; the anode is depolarized by heating 3–4 min.

G. M. Kosolapoff



LYALIKOV, YU. S.

Chemistry, Analytical

"Physiochemical analytical methods." Reviewed by P. K. Agasyan. Zhur. anal. khim. 7 no. 3 (1952)

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

1. LYALIKOV, Yu. S.
2. USSR (600)
4. Salts
7. Polarography of fused salts. Zhur. anal. khim. 8, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

LYALIKOV, YU. S.

Analytical Chemistry

Dissertation: "Polarography of Molten Salts." Dr Chem Sci, Inst of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Acad Sci USSR, Oct-Dec 1953. (Brief Summary Given) (Vestnik Akademii Nauk, Moscow, Mar 54)

SO: SUM 213, 20 Sept 1954

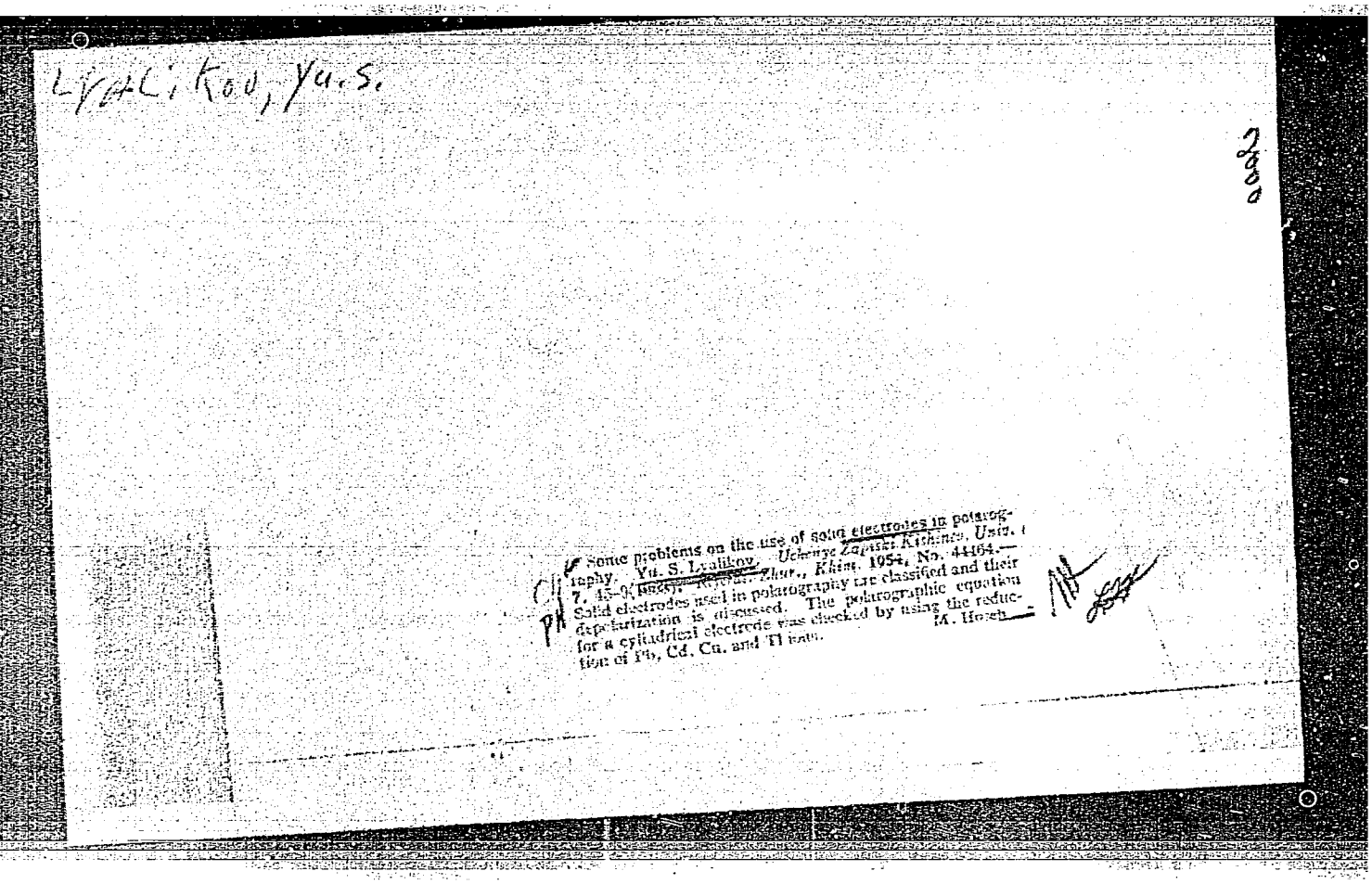
LYALIKOV, YU. S.

Yu. S. Lyalikov, V. I. Sakunov, and N. S. Tkachenko, Analiz zheleznykh i margantsevykh rud (Analysis of Iron and Manganese Ore), Metallurgizdat.

The booklet presents practical methods of analysis of iron and manganese ore in mine and plant laboratories, describing methods of selection and preparation of assays, laboratory technique, apparatus for physicochemical methods of analysis, and accident prevention in chemical laboratories.

The book is intended for mine and plant laboratory workers.

SO: Sovetskiye knigi (Soviet Books), No. 187, 1953, Moscow, (U-6472)



Lyalikov, Yu. S.

Some problems on the use of solid electrodes in polarography. Yu. S. Lyalikov. *Uchenye Zapiski Kishinev. Univ.*, *Zhur., Khim.* 1954, No. 4464.— 7, 45–9(1955).— Solid electrodes used in polarography are classified and their depolarization is discussed. The polarographic equation for a cylindrical electrode was checked by using the reduction of Pb, Cd, Cu, and Tl ions. M. Hosch

LYALIKOV, Yuriy Sergeyevich; SAKUNOV, Valentin Ivanovich; TKACHENKO, Nikolay Stepanovich; GENEROZOV, B.A., redaktor; YEZDOKOVA, M.L., redaktor; EVENSON, I.M., tekhnicheskiy redaktor.

[Analysis of iron and manganese ores] Analiz zheleznykh i margantsevykh rud. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 272 p. (MLRA 8:1)
(Iron ores--Analysis) (Manganese ores--Analysis)

Lyalikov, Yu. S.

Distr: 4E4j

Determination of some ions by the grinding method. Yu. S. Lyalikov, K. L. Kurilko, and F. G. Orentlikher. *Uchenye Zapiski Kishinev. Univ.* 14, 133-6(1954); *Referat. Zhur., Khim.* 1955, Abstr. No. 55293.—By grinding the substance with a definite amt. of reagent, a characteristic color is developed for the ion sought. A series of mixts. of the ion salts with neutral substances as fillers, which act as diluents and do not react with the reagent, are prepd. NaCl, $NaNO_3$, Na_2SO_4, etc., are used as filler-diluents. The intensity of the obtained color depends on the concn. of the ion sought, duration of grinding, etc. Expts. show that all these factors can be standardized in such a manner that the color intensity depends only on the ion concn. Grinding Co^{++}, Fe^{++}, and Fe^{+++} with, resp., KSCN, $K_4Fe(CN)_6$, and $K_3Fe(CN)_6$ gives blue, green, and gray (or blue) colors, which are very stable. It is established that there is definite correlation between the ion content in the colored mixt. and the reflection coeff.

N. Vasileff

LYALIKOV, YU. S.

Polarographic determination of platinum on solid electrodes. I. M. B. Bardin and Yu. S. Lyalikov (State Univ., Kishinev). *Zhur. Anal. Khim.* [illegible].—Pt was detd. polarographically in a $PtCl_4$ soln. with $NaNO_3$ as an auxiliary electrolyte and Pt electrodes. The cathode was a Pt needle of 0.6 mm. diam. and 5 mm. length, the anode a Pt strip of 160 sq. mm. area. O affected the detn. adversely. Detns. carried out in an atm. of N gave polarograms with 2 clearly expressed diffusion current curves, one at 0.6–0.7 v. and the other at 1.6–1.7 v. The height of both curves was proportional to the concn. of Pt in soln. Polarization of the electrodes did not affect the detn. Cells for macro- and microdetns. are described. M. Hosch

LYALIKOV, Yu.S.

137-58-5-11097

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 313 (USSR)

AUTHOR: Lyalikov, Yu.S.

TITLE: A Survey of Novel Inspection Methods in Metallurgical Industry (Obzor novykh metodov kontrolya v metallurgicheskoy promyshlennosti)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii. Ukr. resp. pravl., 1956, Vol 4, pp 11-21

ABSTRACT: A survey. Of the 250 papers examined, 67 were devoted to calorimetric and photocolorimetric analyses, 22 dealt with polarographic methods; 15 papers were concerned with the employment of organic reagents, and 12 with electrolytical processes. 50% of all works in the field of analysis of ferrous metals are devoted to physicochemical methods. Bibliography: 91 references.

V.N.

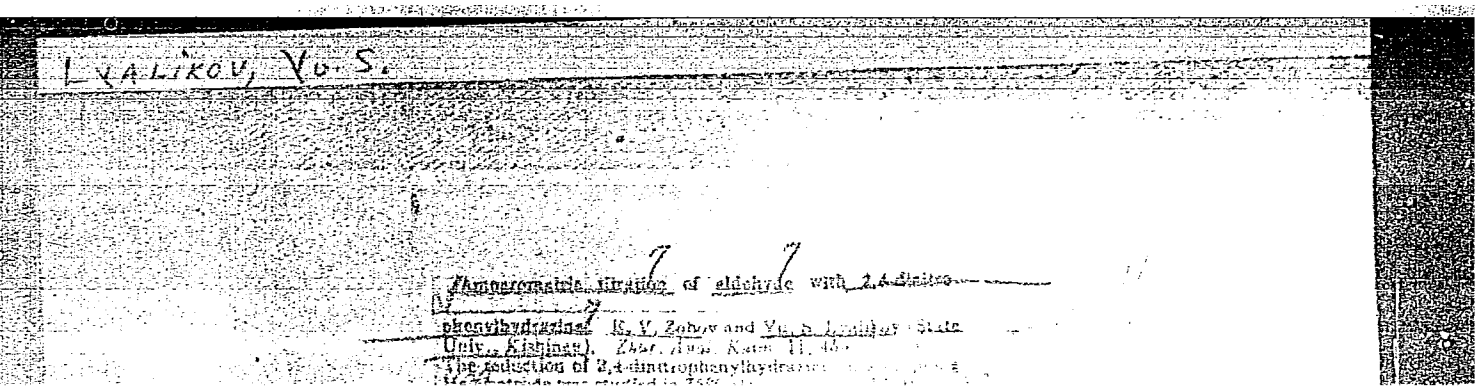
1. Metallurgy--Quality control 2. Metallurgy--Inspection

Card 1/1

L-YALIKOV, Yu. S.

3354. Polarographic determination of platinum on solid electrodes. II. M. B. Bardin and Yu. S. Lyalikov (Kishinev State Univ.). *Zhur. Anal. Khim.*, 1956, 11 (1), 67–70.—The electrode process on a platinum micro-cathode during polarography of aq. soln. of H_2PtCl_6 is studied by means of the apparatus previously described (*Anal. Abstr.*, 1956, 3, 1376). The first wave is attributed to the sum of the reduction processes $[PtCl_4]'' \rightarrow [PtCl_4]''$ $\rightarrow Pt^0$, and the second wave to the reduction of $H_2[PtCl_4O]' + 2e \rightarrow H_2 + 2H_2O$. Since the second wave is a function of the concn. of hydrogen ion, the first wave, the height of which is proportional to the concn. of Pt, must be used for analytical purposes.

G. S. Smith



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[illegible]

[illegible] on a dropping Hg electrode was studied in 76% alc. solns. of 0.05N H_2SO_4, 0.05N NH_4Cl, and 0.05N NH_4OH at 18-20°. Two waves were obtained in each case, the half-wave potentials of which were −0.244 and −0.510 v., −0.546 and −0.808 v., and −0.560 and −0.828 v., resp. In H_2SO_4 solns. there was a direct relation between the current (i) and concn. (c) for each of the waves and for the summary wave $i = kc$. For the summary wave $k = 11.50$. In the expts. BzH was used and it was titrated at −0.7 v. and at 1.2–1.4 v. In either case characteristic curves were obtained. M. Hosch

14 MT 9R 0.28

Lyalikov, Yu.S.

USSR/ Analytical Chemistry - Analysis of Organic Substances G-3

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12172

Author : Zobov Ye.V., Lyalikov Yu.S.
Title : An Experiment on Titration of Aldehyde with 2,4-Dinitro-Phenylhydrazine

Orig Pub : Zh. analit. khimii, 1956, 11, No 4, 459-462

Abstract : On study of polarographic properties of 2,4-dinitro-phenylhydrazine (I) it was found that with a H_2SO_4 background I produces two waves of $E_{\frac{1}{2}}^1$ - 0.244v and $E_{\frac{1}{2}}^2$ - 0.510v. With NH_4Cl background half-wave potentials are, respectively, - 0.546 and - 0.808v; with NH_4OH background - 0.566 and - 0.828v. Benzaldehyde (II) produces a wave at potential - 1.0v. By titration at -0.7v there is obtained a rectified portion and a sharp rise of the current following the equivalence point. The resulting residual current (7 a) is constant and does not affect the titration results. On titration with an applied

Card 1/2

LYALIKOV, YU. S.

Polarographic determination of palladium on solid electrodes. [illegible] and Yu. S. Lyalikov (State Univ., Kishinev). *Zhur. Anal. Khim.* [illegible] (1950); cf. *C.A.* 50, 2359c.—Pb (0.006 g./ml.) was detd. polarographically by using solid Pt electrodes with an accuracy of ±3%. The reduction potential was 0.6–0.7 v. Raising the e.m.f. to 1.5–1.7 v. caused H absorption by the Pd deposit. This could be prevented by not exceeding 1.2–1.3 v., i.e., before evolution of H. The use of a rotating electrode of the type suggested by Kolthoff (K. and Lingane, *Polarography*, 1941; *C.A.* 35, 4314[5]) increased the sensitivity and shortened the time for a detn. M. Hosch

LYALIKOV, YU. S.

638. **Amperometric titration of palladium by means of certain organic reagents on the rotating platinum electrode.** M. B. Bardin and Yu. S. Lyalikov (Kishinev State Univ.). *Zhur. Anal. Khim.*, 1957, 12 (3), 390-394.—Amperometric titrations of Pd in 0·1 *N* $NaNO_3$ with a rotating platinum electrode (800 r.p.m.) at 0·0 to 1·0 V applied e.m.f. are described. With 0·01 *M* 1-nitroso-2-naphthol in 50% acetic acid as titrant no definite end-point is obtained, but satisfactory results are given by furil α-dioxime (0·01 *M* in water), dimethylglyoxime (ethanolic soln. or an aq. soln. of the sodium salt), 2-furfuraldoxime and 8-hydroxyquinoline.

G. S. SMITH

27 6 4E2c 4E3d 4E4 NS 11. MB

AUTHORS: [illegible], R. M., [illegible]

TITLE: [illegible] of the Characteristics of Polarographic [illegible]
(K voprosu [illegible] kharakteristike polyarograficheskikh voln)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp. 290-293 (USSR)

ABSTRACT: [illegible] from publications dealing with this subject, [illegible]
polarographic waves as given in the classical instructions
published by Kol'tgof, Heyrovsky (Geyrovskiy), and others, [illegible]
not always obtained in practical work. Figure 1 shows a charac-
teristically distorted wave. The use of such waves in practice
proves that it is not always advisable to aim at distinctly
"classical" waves, which sometimes is not possible either. The
evaluation of the quality of the waves is mostly subjective. An
objective evaluation, however, is of importance above all for
the characteristic of the changes which the wave suffers when
changing the background, when introducing a foreign electrolyte,
a complex-forming substance, etc. The authors propose an ob-
jective characteristic of the clearness of the polarographic
waves and they use the following parameters for this purpose:

Card 1/3

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On the Problem of the Characteristics of Polarographic Waves

a) the amount of vector of the residual current before the wave a_R, expressed in volt. The condition of a clear expression of the wave is $a_R \gg 0,1$ V; b) the amount of the vector of the initial current behind the wave a_K, also expressed in volt. The condition as above: $a_K \gg 0,1$ V; c) the angle of both the elevation and the end of the wave α_E and α_K in degrees. This characteristic feature depends on the polarographic background and on the presence of foreign substances; d) the angle of the elevation of the vector of the initial current in proportion to the horizontal line of the $\alpha_{background}$. The introduction of such characteristics makes it possible - according to the authors' opinion - to compare different polarographic waves with each other. Some curves from literature and from the own practice are dealt with as example according to the proposed method. Figure 2 shows polarograms for gallium (Ref 1), Figure 3 - for indium on solid electrodes (Ref 2). Comparing the [illegible] (first table page 292) the first [illegible] relatively clear, the second one [illegible]

On the Problem of the Characteristics of Polarographic Waves

is more extended than the first one. Figure 4 gives the polarogram for gold; figure 5 that for platinum. In these cases too, the afore-said parameters characterize the distortion and deterioration of the polarographic waves. There are 5 figures, 5 tables, and 8 references, which are Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii Kishinevskogo gosudarstvennogo universiteta (Chair of Analytical Chemistry Kishinev State University)

SUBMITTED: December 3, 1957